

=> file reg

FILE 'REGISTRY' ENTERED AT 20:31:26 ON 15 FEB 2006
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FILE 'LREGISTRY' ENTERED AT 13:50:33 ON 15 FEB 2006

L1 STR

FILE 'HCAPLUS' ENTERED AT 14:09:17 ON 15 FEB 2006

L2 380721 S WANG ?/AU
L3 19509 S MAO ?/AU
L4 2489 S LEONG ?/AU
L5 27 S L2 AND L3 AND L4
L6 46365 S WANG J?/AU
L7 1615 S MAO H?/AU
L8 548 S LEONG K?/AU
L9 19 S L6 AND L7 AND L8
SEL L9 1,2,4,6,7,11,12,13,14,15,16,18,19 RN

FILE 'REGISTRY' ENTERED AT 14:19:24 ON 15 FEB 2006

L10 40 S E1-E40
L11 10 S L10 AND P/ELS
L12 8 S L10 AND PMS/CI
L13 7 S L11 AND L12

FILE 'HCAPLUS' ENTERED AT 14:21:06 ON 15 FEB 2006

SEL L9 1-19 RN

FILE 'REGISTRY' ENTERED AT 14:21:27 ON 15 FEB 2006

L14 53 S E41-E93
L15 12 S L14 AND P/ELS
L16 14 S L14 AND PMS/CI
L17 8 S L15 AND L16
L18 8 S L17 OR L13
L19 30 S L14 AND N/ELS
L20 3 S L19 AND L15

FILE 'HCAPLUS' ENTERED AT 15:09:28 ON 15 FEB 2006

L21 24 S L18
L22 13 S L9 AND L21

FILE 'REGISTRY' ENTERED AT 15:13:22 ON 15 FEB 2006

L23 1 S 168788-11-2
L24 1 S 100-36-7

L25 1 S 107-15-3
L26 1 S 108-00-9
L27 1 S 109-81-9
L28 1 S 51460-23-2
L29 1 S 18807-71-1
L30 1 S 162576-01-4
L31 1 S 110-60-1
L32 1 S 15302-88-2
L33 1 S 109-76-2
L34 1 S 38170-37-5
L35 1 S 77987-49-6
L36 1 S 17996-12-2
L37 1 S 622-08-2
L38 1 S 158474-89-6
L39 16 S L23-L38

FILE 'HCA' ENTERED AT 16:41:57 ON 15 FEB 2006

L40 45254 S L39
L41 10 S L21 AND L40

FILE 'LREGISTRY' ENTERED AT 16:42:52 ON 15 FEB 2006

L42 STR

FILE 'REGISTRY' ENTERED AT 16:58:11 ON 15 FEB 2006

L43 SCR 2043
L44 50 S L42 AND L43

FILE 'LREGISTRY' ENTERED AT 16:59:13 ON 15 FEB 2006

L45 STR L42

FILE 'REGISTRY' ENTERED AT 17:19:20 ON 15 FEB 2006

L46 0 S L45 AND L43

FILE 'LREGISTRY' ENTERED AT 17:19:57 ON 15 FEB 2006

L47 STR L45

FILE 'REGISTRY' ENTERED AT 17:22:10 ON 15 FEB 2006

L48 50 S L47 AND L43
L49 4964 S L47 AND L43 FUL
SAV L49 ACQ898/A
L50 50 S L42 SSS SAM SUB=L49
L51 1052 S L42 SSS FUL SUB=L49
SAV L51 ACQ898A/A

FILE 'HCA' ENTERED AT 18:57:01 ON 15 FEB 2006

L52 536 S L51
L53 111 S L51/D OR L51/DP
L54 7267 S L39/D OR L39/DP

FILE 'REGISTRY' ENTERED AT 18:58:08 ON 15 FEB 2006

L55 7 S L39 AND O/ELS
L56 3 S L39 AND ?HYDROXY?/CNS
L57 13 S L39 NOT L56

FILE 'HCA' ENTERED AT 19:00:57 ON 15 FEB 2006

L58 44419 S L57
L59 7258 S L57/D OR L57/DP
L60 9 S L52 AND L58
L61 5 S L53 AND L59
L62 866 S L56
L63 9 S L56/D OR L56/DP
L64 5 S L52 AND L62
L65 4 S L53 AND L63
L66 13 S L53 (L) (AMINAT? OR POLYAMINAT? OR AMINE# OR AMINO# OR
L67 7 S L53 (L) (?ETHYLENEDIAMIN? OR ?AMINOMETHYL? OR ?AMINOETH
L68 19 S L52 (L) (AMINAT? OR POLYAMINAT? OR AMINE# OR AMINO# OR
L69 10 S L52 (L) (?ETHYLENEDIAMIN? OR ?AMINOMETHYL? OR ?AMINOETH
L70 311 S ?BENZYLOXYETHANOL?
L71 1 S L52 AND L70

FILE 'REGISTRY' ENTERED AT 19:12:16 ON 15 FEB 2006

L72 36080 S (C(L)H(L)N)/ELS (L) 3/ELC.SUB AND NO RSD/FA
L73 20535 S L72 AND 1<N

FILE 'HCA' ENTERED AT 19:13:20 ON 15 FEB 2006

L74 172109 S L73
L75 27070 S L73/D OR L73/DP
L76 19 S L52 AND L74
L77 8 S L53 AND L75

FILE 'REGISTRY' ENTERED AT 19:15:51 ON 15 FEB 2006

L78 374401 S (C(L)H(L)N(L)O)/ELS (L) 4/ELC.SUB AND NO RSD/FA
L79 1680139 S (C(L)H(L)N(L)O)/ELS (L) 4/ELC.SUB AND 1/NRS
L80 54912 S L79 AND ?CARBAM?/CNS
L81 42533 S L80 AND 2<O
L82 374401 S L78 OR L78
L83 194401 S L82 RAN=(,159430-98-5)
L84 180000 S L82 RAN=(159431-21-7,)

FILE 'HCA' ENTERED AT 19:34:05 ON 15 FEB 2006

L85 1916 S L81/D OR L81/DP
L86 85768 S L83/D OR L83/DP
L87 3492 S L84/D OR L84/DP
L88 17 S L53 AND (L85 OR L86 OR L87)

FILE 'LREGISTRY' ENTERED AT 19:38:03 ON 15 FEB 2006

L89 STR L47

FILE 'REGISTRY' ENTERED AT 19:40:09 ON 15 FEB 2006

L90 4 S L89 SSS SAM SUB=L49

L91 143 S L89 SSS FUL SUB=L49
SAV L91 ACQ565/A

FILE 'HCA' ENTERED AT 20:06:37 ON 15 FEB 2006

L92 44 S L91

L93 29 S L41 OR L60 OR L61 OR L66 OR L67 OR L77

L94 57 S (L68 OR L69 OR L76 OR L92) NOT L93

L95 19 S L93 AND (1840-2001/PRY OR 1840-2001/PY)

L96 47 S L94 AND (1840-2001/PRY OR 1840-2001/PY)

L97 10 S L93 NOT L95
SAV L97 ACQ565A/A

L98 10 S L94 NOT L96
SAV L98 ACQ565B/A

FILE 'LREGISTRY' ENTERED AT 20:12:19 ON 15 FEB 2006

L99 STR L47

FILE 'REGISTRY' ENTERED AT 20:18:23 ON 15 FEB 2006

L100 39 S L99 SSS SAM SUB=L49

L101 STR

L102 6 S (L99 NOT L101) SSS SAM SUB=L49

L103 148 S (L99 NOT L101) SSS FUL SUB=L49
SAV L103 ACQ898B/A

FILE 'HCA' ENTERED AT 20:25:22 ON 15 FEB 2006

L104 83 S L103

L105 19 S L64 OR L65 OR L71 OR L88

L106 83 S L104 NOT L105

L107 14 S L105 AND (1840-2001/PRY OR 1840-2001/PY)

L108 74 S L106 AND (1840-2001/PRY OR 1840-2001/PY)

L109 5 S L105 NOT L107
SAV L109 ACQ898C/A

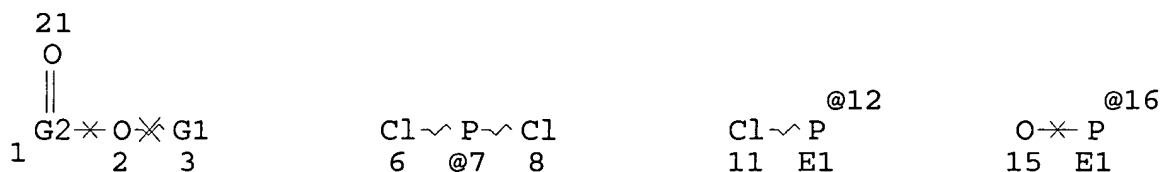
L110 9 S L106 NOT L108
SAV L110 ACQ898D/A

FILE 'REGISTRY' ENTERED AT 20:31:26 ON 15 FEB 2006

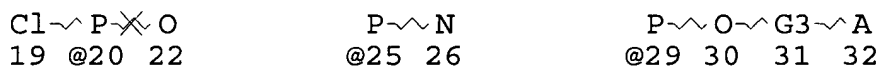
=> d 191 que stat

L43 SCR 2043

L47 STR



Page 1-A



Page 1-B

VAR G1=C/ID

VAR G2=7/12/16/20/25/29

REP G3=(1-6) CH2

NODE ATTRIBUTES:

HCOUNT IS E1 AT 12

HCOUNT IS E1 AT 16

NSPEC IS RC AT 32

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

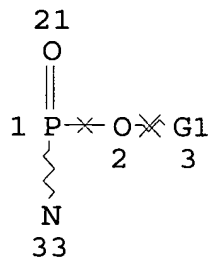
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 20

STEREO ATTRIBUTES: NONE

L49 4964 SEA FILE=REGISTRY SSS FUL L47 AND L43

L89 STR



VAR G1=C/ID

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L91 143 SEA FILE=REGISTRY SUB=L49 SSS FUL L89

100.0% PROCESSED 157 ITERATIONS

143 ANSWERS

SEARCH TIME: 00.00.01

=> file hca

FILE 'HCA' ENTERED AT 20:32:01 ON 15 FEB 2006

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=> d 195 1-19 cbib abs hitstr hitind

L95 ANSWER 1 OF 19 HCA COPYRIGHT 2006 ACS on STN

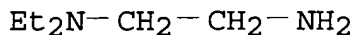
138:112274 Biodegradable polyphosphoramidates as gene carriers: Effect of charge groups on transfection efficiency. Wang, J.; Mao, H.-Q.; Leong, K. W. (Clinical Research Center, Johns Hopkins Singapore, Singapore, 117597, Singapore). Proceedings - 28th International Symposium on Controlled Release of Bioactive Materials and 4th Consumer & Diversified Products Conference, San Diego, CA, United States, June 23-27, 2001, Volume 2, 1119-1120. Controlled Release Society: Minneapolis, Minn. (English) 2001. CODEN: 69CNY8.

AB To elucidate the important features of polymeric gene carriers, a series of new cationic polyphosphoramidates (PPAs) with an identical backbone but different side chains contg. primary to tertiary amino groups were synthesized. These PPA carriers showed different transfection abilities and DNA binding capacities. PPA with a spermidine side chain was the most efficient in several cell lines, while other PPAs only achieved moderate levels of gene expression. Chloroquine significantly enhanced the transfection efficiency. These PPAs were less toxic than PEI and PLL.

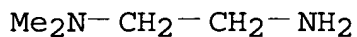
IT 100-36-7DP, reaction products with polydioxaphospholane
108-00-9DP, reaction products with polydioxaphospholane
109-76-2DP, 1,3-Propanediamine, reaction products with
polydioxaphospholane 38170-37-5DP, reaction products with
polydioxaphospholane 51460-23-2DP, reaction products with
polydioxaphospholane 83945-68-0DP, reaction products with
amines

(charge groups effect on transfection efficiency of biodegradable polyphosphoramidates as gene carriers)

RN 100-36-7 HCA
 CN 1,2-Ethanediamine, N,N-diethyl- (9CI) (CA INDEX NAME)



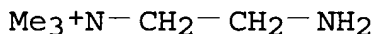
RN 108-00-9 HCA
 CN 1,2-Ethanediamine, N,N-dimethyl- (9CI) (CA INDEX NAME)



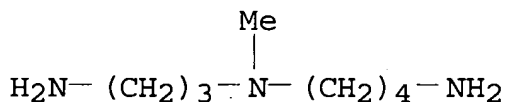
RN 109-76-2 HCA
 CN 1,3-Propanediamine (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 38170-37-5 HCA
 CN Ethanaminium, 2-amino-N,N,N-trimethyl- (9CI) (CA INDEX NAME)



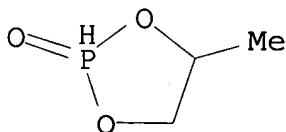
RN 51460-23-2 HCA
 CN 1,4-Butanediamine, N-(3-aminopropyl)-N-methyl- (9CI) (CA INDEX NAME)



RN 83945-68-0 HCA
 CN 1,3,2-Dioxaphospholane, 4-methyl-, 2-oxide, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 16352-26-4
 CMF C3 H7 O3 P



CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 3

IT 100-36-7DP, reaction products with polydioxaphospholane
108-00-9DP, reaction products with polydioxaphospholane
109-76-2DP, 1,3-Propanediamine, reaction products with
polydioxaphospholane 38170-37-5DP, reaction products with
polydioxaphospholane 51460-23-2DP, reaction products with
polydioxaphospholane 83945-68-0DP, reaction products with
amines
(charge groups effect on transfection efficiency of biodegradable
polyphosphoramidates as gene carriers)

L95 ANSWER 2 OF 19 HCA COPYRIGHT 2006 ACS on STN
138:112127 Prolonged and enhanced gene expression in mouse muscle by
sustained release of plasmid DNA using PPE as a carrier. Wang, J.;
Mao, H.-Q.; Leong, K. W. (Johns Hopkins Singapore, Singapore,
117597, Singapore). Proceedings - 28th International Symposium on
Controlled Release of Bioactive Materials and 4th Consumer &
Diversified Products Conference, San Diego, CA, United States, June
23-27, 2001, Volume 1, 25-26. Controlled Release Society:
Minneapolis, Minn. (English) 2001. CODEN: 69CNY8.

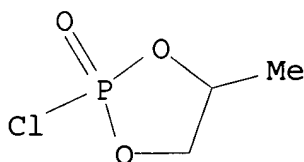
AB A new system for the controlled release of plasmid DNA was developed
using a biodegradable polyphosphoester [PPE]. The release of
plasmid DNA from PPE-DNA complexes was a function of charge ratio.
At an N/P ratio of 1, a burst of 14.1 $\mu\text{g/mL}$ was obsd. for the
first day, followed by a near const. release of 1.24 $\mu\text{g/mL/day}$
for 12 days. Higher charge ratios reduced both the DNA release rate
and the burst effect. A 20 and 16-fold higher levels of β -Gal
expression in mouse muscle were achieved at day 7 using PPE-DNA
complexes with N/P ratios of 0.5 and 1 as compared with naked DNA
injection, and the gene expression level was maintained for up to 4
wk.

IT 31259-60-6P
(prolonged and enhanced gene expression in mouse muscle by
sustained release of plasmid DNA using polyphosphoester as a
carrier)

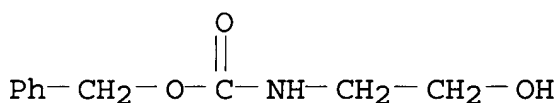
RN 31259-60-6 HCA
CN 1,3,2-Dioxaphospholane, 2-chloro-4-methyl-, 2-oxide, homopolymer
(9CI) (CA INDEX NAME)

CM 1

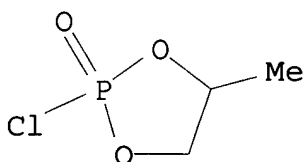
CRN 4225-53-0
CMF C3 H6 Cl O3 P



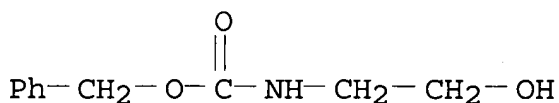
IT 77987-49-6, Benzyl N-(2-hydroxyethyl)carbamate
 (prolonged and enhanced gene expression in mouse muscle by
 sustained release of plasmid DNA using polyphosphoester as a
 carrier)
 RN 77987-49-6 HCA
 CN Carbamic acid, (2-hydroxyethyl)-, phenylmethyl ester (9CI) (CA
 INDEX NAME)



IT 31259-60-6DP, aminoethoxy derivs.
 77987-49-6DP, reaction products with polydioxaphospholane
 (prolonged and enhanced gene expression in mouse muscle by
 sustained release of plasmid DNA using polyphosphoester as a
 carrier)
 RN 31259-60-6 HCA
 CN 1,3,2-Dioxaphospholane, 2-chloro-4-methyl-, 2-oxide, homopolymer
 (9CI) (CA INDEX NAME)
 CM 1
 CRN 4225-53-0
 CMF C3 H6 Cl O3 P



RN 77987-49-6 HCA
 CN Carbamic acid, (2-hydroxyethyl)-, phenylmethyl ester (9CI) (CA
 INDEX NAME)



CC 63-5 (Pharmaceuticals)

IT 31259-60-6P

(prolonged and enhanced gene expression in mouse muscle by sustained release of plasmid DNA using polyphosphoester as a carrier)

IT 77987-49-6, Benzyl N-(2-hydroxyethyl)carbamate

(prolonged and enhanced gene expression in mouse muscle by sustained release of plasmid DNA using polyphosphoester as a carrier)

IT 31259-60-6DP, aminoethoxy derivs.

77987-49-6DP, reaction products with polydioxaphospholane (prolonged and enhanced gene expression in mouse muscle by sustained release of plasmid DNA using polyphosphoester as a carrier)

L95 ANSWER 3 OF 19 HCA COPYRIGHT 2006 ACS on STN

138:78460 Biodegradable polyphosphoramidates for controlled release of bioactive substances. Wang, Jun; Mao, Hai-Quan; Leong, Kam Weng (Johns Hopkins Singapore Pte. Ltd., Singapore). PCT Int. Appl. WO 2003000776 A1 20030103, 52 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2002-SG91 20020514. PRIORITY: US 2001-PV290833 20010514.

AB The present invention is directed to a series of new polycationic biodegradable polyphosphoramidates. A process for making the polymers, compns. contg. these polymers and bioactive ligands to enhance the cellular uptake and intracellular trafficking, articles and methods for delivery of drugs and genes using these polymers are described. A gene delivery system based on these polymers is prepd. by complex coacervation of nucleic acid (DNA or RNA) with polymers. Targeting ligands and mols. that could facilitate gene transfer can be conjugated to polymers to achieve selective and enhanced gene delivery. The current invention also provides a complex compn. with buffering capacity. [OCHMeCH₂OP(O)H]_n is prepd. and treated with a no. of polyamines to form the polyphosphoramidates. Examples also

give include cytotoxicity assay, gel retardation assay for the DNA binding capacity, and prepn. of DNA and chloroquine sulfate coacervates with the polyphosphoramidates.

IT **83945-68-0P**

(biodegradable polyphosphoramidates for controlled release of bioactive substances)

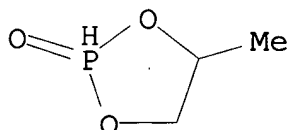
RN 83945-68-0 HCA

CN 1,3,2-Dioxaphospholane, 4-methyl-, 2-oxide, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 16352-26-4

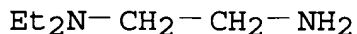
CMF C3 H7 O3 P



IT **100-36-7DP**, N,N-Diethylethylenediamine, reaction products with poly(4-methyl-2-oxo-2-hydro-1,3,2-dioxaphospholane)
108-00-9DP, N,N-Dimethylethylenediamine, reaction products with poly(4-methyl-2-oxo-2-hydro-1,3,2-dioxaphospholane)
110-60-1DP, 1,4-Butanediamine, reaction products with poly(4-methyl-2-oxo-2-hydro-1,3,2-dioxaphospholane)
15302-88-2DP, reaction products with poly(4-methyl-2-oxo-2-hydro-1,3,2-dioxaphospholane) **120527-66-4DP**, reaction products with **polyamines 168788-11-2DP**, reaction products with poly(4-methyl-2-oxo-2-hydro-1,3,2-dioxaphospholane)
 (biodegradable polyphosphoramidates for controlled release of bioactive substances)

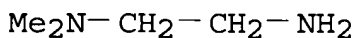
RN 100-36-7 HCA

CN 1,2-Ethanediamine, N,N-diethyl- (9CI) (CA INDEX NAME)



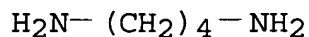
RN 108-00-9 HCA

CN 1,2-Ethanediamine, N,N-dimethyl- (9CI) (CA INDEX NAME)



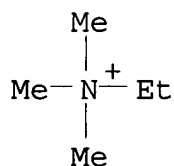
RN 110-60-1 HCA

CN 1,4-Butanediamine (8CI, 9CI) (CA INDEX NAME)



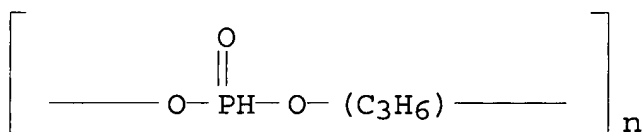
RN 15302-88-2 HCA

CN Ethanaminium, N,N,N-trimethyl- (9CI) (CA INDEX NAME)



RN 120527-66-4 HCA

CN Poly[oxyphosphinylideneoxy(methyl-1,2-ethanediyl)] (9CI) (CA INDEX NAME)



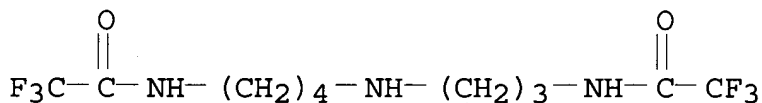
RN 168788-11-2 HCA

CN Acetamide, 2,2,2-trifluoro-N-[3-[[4-[(trifluoroacetyl)amino]butyl]amino]propyl]-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 158474-89-6

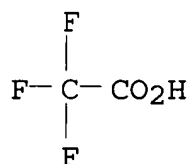
CMF C11 H17 F6 N3 O2



CM 2

CRN 76-05-1

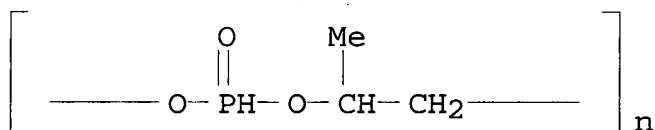
CMF C2 H F3 O2



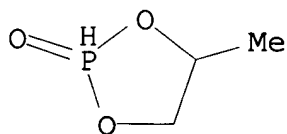
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A61P035-00; A61P011-02; A61P001-12; A61P001-10
- CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 35
- IT **83945-68-0P**
(biodegradable polyphosphoramidates for controlled release of
bioactive substances)
- IT **100-36-7DP**, N,N-Diethylethylenediamine, reaction products
with poly(4-methyl-2-oxo-2-hydro-1,3,2-dioxaphospholane)
108-00-9DP, N,N-Dimethylethylenediamine, reaction products
with poly(4-methyl-2-oxo-2-hydro-1,3,2-dioxaphospholane)
110-60-1DP, 1,4-Butanediamine, reaction products with
poly(4-methyl-2-oxo-2-hydro-1,3,2-dioxaphospholane)
15302-88-2DP, reaction products with poly(4-methyl-2-oxo-2-
hydro-1,3,2-dioxaphospholane) **120527-66-4DP**, reaction
products with **polyamines 168788-11-2DP**, reaction
products with poly(4-methyl-2-oxo-2-hydro-1,3,2-dioxaphospholane)
(biodegradable polyphosphoramidates for controlled release of
bioactive substances)
- L95 ANSWER 4 OF 19 HCA COPYRIGHT 2006 ACS on STN
- 137:389134 Biodegradable polyphosphates for controlled release of drugs
and genes and their preparation. Wang, Jun; Mao, Hai-Quan; Leong,
Kam Weng (Johns Hopkins Singapore Pte. Ltd., Singapore). PCT Int.
Appl. WO 2002092667 A1 20021121, 53 pp. DESIGNATED STATES: W: AE,
AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR,
CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV,
MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD,
SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU,
ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ,
CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU,
MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN:
PIXXD2. APPLICATION: WO 2002-SG90 20020514. PRIORITY: US
2001-2001/PV290888 20010514.
- AB The pos. chargeable polyphosphoester comprises .gtoreq.1
phosphoester linkage in the polymer backbone and .gtoreq.1 pos.
chargeable group which is a substituent of a side chain attached to
the polymer backbone through a phosphoester linkage. The

polyphosphoester is prepd. by polymg. .gtoreq.1 monomer to form a polymer with .gtoreq.1 phosphoester linkage in polymer backbone, reacting the polymer with a alc. with a chargeable group or its substituents. The compns. contg. the polyphosphoesters and biol. active substances are useful for delivery of drugs and genes. A controlled gene delivery system based on these polyphosphoesters is prepd. by complex coacervation of nucleic acid (DNA or RNA) with the polymers. The release rates can be manipulated by adjusting the charge ratios of polyphosphoesters to nucleic acids. This gene delivery system yields a higher gene expression in muscle when injected i.m.

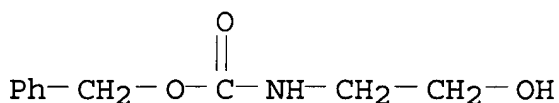
IT **83906-57-4DP**, chlorinated, esterified and hydrolyzed
83945-68-0DP, chlorinated, esterified and hydrolyzed
 (prepn. of biodegradable polyphosphates for controlled release of drugs and genes)
 RN 83906-57-4 HCA
 CN Poly[oxyphosphinylideneoxy(1-methyl-1,2-ethanediyl)] (9CI) (CA INDEX NAME)



RN 83945-68-0 HCA
 CN 1,3,2-Dioxaphospholane, 4-methyl-, 2-oxide, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 16352-26-4
 CMF C3 H7 O3 P

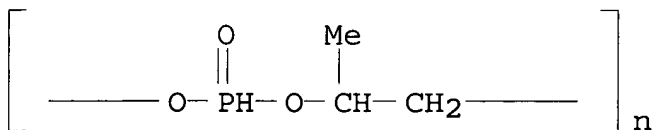


IT **77987-49-6DP**, Benzyl N-(2-hydroxyethyl)carbamate, reaction products of chlorinated poly(4-methyl-2-hydro-1,3,2-dioxaphospholane)
 (prepn. of biodegradable polyphosphates for controlled release of drugs and genes)
 RN 77987-49-6 HCA
 CN Carbamic acid, (2-hydroxyethyl)-, phenylmethyl ester (9CI) (CA INDEX NAME)



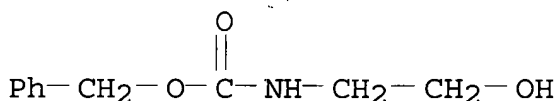
- IC ICM C08G079-04
ICS A61K047-48; A61P021-06; A61P011-06; A61P009-10; A61P001-08;
A61P035-00; A61P011-02; A61P001-12; A61P001-10
- CC 63-5 (Pharmaceuticals)
- IT **83906-57-4DP**, chlorinated, esterified and hydrolyzed
83945-68-0DP, chlorinated, esterified and hydrolyzed
(prepn. of biodegradable polyphosphates for controlled release of
drugs and genes)
- IT **77987-49-6DP**, Benzyl N-(2-hydroxyethyl)carbamate, reaction
products of chlorinated poly(4-methyl-2-hydro-1,3,2-
dioxaphospholane)
(prepn. of biodegradable polyphosphates for controlled release of
drugs and genes)
- L95 ANSWER 5 OF 19 HCA COPYRIGHT 2006 ACS on STN
135:348791 A Novel Biodegradable Gene Carrier Based on Polyphosphoester.
Wang, Jun; Mao, Hai-Quan; Leong, Kam W. (Johns Hopkins, Singapore,
117597, Singapore). Journal of the American Chemical Society,
123(38), 9480-9481 (English) **2001**. CODEN: JACSAT. ISSN:
0002-7863. Publisher: American Chemical Society.
- AB A new biodegradable gene carrier, poly(2-aminoethyl propylene
phosphate) (PPE-EA) was designed and synthesized with relatively
high mol. wt. A cytotoxicity study suggested the biocompatible
nature of the polymer. Complexation between PPE-EA and plasmid
protected DNA from nuclease degrdn. PPE-EA mediated a higher level
of gene expression, but the transfection efficiency greatly depended
on cell type. A unique feature of this system was the capability of
controlled release of plasmid from PPE-EA/DNA complexes, achieved as
a result of PPE-EA degrdn. The release-rate of plasmid could be
adjusted by varying the charge ratio of PPE-EA to DNA. In vitro
transfection activity of PPE-EA/DNA complexes was evaluated in
HEK293 cells in comparison with poly(L-lysine) (PLL) and
polyethylenimine (PEI). Transfection with PPE-EA/DNA complexes
(charge ratios between 6 and 8) yielded 45-105-fold higher gene
expression than PLL-mediated transfection. In the presence of
chloroquine diphosphate (CQ, 100 M), a reagent known to disrupt
endosomal membrane and enhance transfection of DNA complexes
trafficked through the endo-lysosomal pathway, transfection
efficiency was significantly increased.
- IT **83906-57-4DP, aminoethylated**
(prepn. and cytotoxicity of biodegradable gene carrier based on
polyphosphoester)

RN 83906-57-4 HCA
 CN Poly[oxyphosphinylideneoxy(1-methyl-1,2-ethanediyl)] (9CI) (CA
 INDEX NAME)



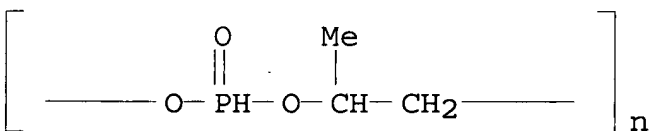
IT **77987-49-6**, Benzyl N-(2-hydroxyethyl) carbamate
 (prepn. and cytotoxicity of biodegradable gene carrier based on
 polyphosphoester)

RN 77987-49-6 HCA
 CN Carbamic acid, (2-hydroxyethyl)-, phenylmethyl ester (9CI) (CA
 INDEX NAME)



IT **83906-57-4DP**, (benzyloxycarbonyl) **aminoethylated**
 (prepn. and cytotoxicity of biodegradable gene carrier based on
 polyphosphoester)

RN 83906-57-4 HCA
 CN Poly[oxyphosphinylideneoxy(1-methyl-1,2-ethanediyl)] (9CI) (CA
 INDEX NAME)



CC 63-5 (Pharmaceuticals)
 Section cross-reference(s): 3, 35

IT **83906-57-4DP**, **aminoethylated**
 (prepn. and cytotoxicity of biodegradable gene carrier based on
 polyphosphoester)

IT 16352-26-4 **77987-49-6**, Benzyl N-(2-hydroxyethyl) carbamate
 (prepn. and cytotoxicity of biodegradable gene carrier based on
 polyphosphoester)

IT **83906-57-4DP**, (benzyloxycarbonyl) **aminoethylated**
83906-57-4DP, chlorinated
 (prepn. and cytotoxicity of biodegradable gene carrier based on
 polyphosphoester)

L95 ANSWER 6 OF 19 HCA COPYRIGHT 2006 ACS on STN

126:84180 Fixation of pharmacologically active amines on polyphosphonates. Part 3. Synthesis and preliminary in vitro cytotoxic studies of bis(2-chloroethyl)amino group containing polyphosphonates. Fontaine, Laurent; Marboeuf, Celine; Brosse, Jean Claude; Maingault, Martine; Dehaut, Frederic (Laboratoire Chimie Physicochimie Macromoleculaire, Universite Maine, Le Mans, F-72017, Fr.). Macromolecular Chemistry and Physics, 197(11), 3613-3621 (English) 1996. CODEN: MCHPES. ISSN: 1022-1352. Publisher: Huethig & Wepf.

AB Water-sol. poly(3,6,9-trioxaundecamethylene phosphonate) with attached cytotoxic bis(2-chloroethyl)amine in the side chain was synthesized by chem. modification of the corresponding polyphosphonate via the Atherton-Todd reaction. The structure of the product was confirmed by ¹H, ¹³C, and ³¹P NMR. Preliminary in vitro cytotoxic studies revealed that the polymeric deriv. exhibited an 8-fold cytotoxic potency against human hepatocellular carcinoma cell line HepG2 than against murine leukemia cell line L1210.

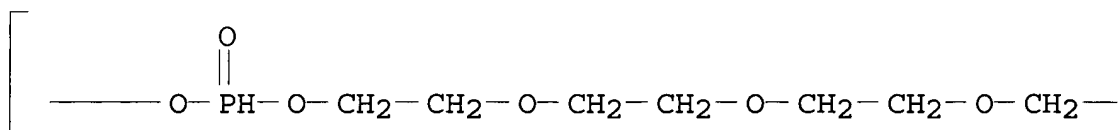
IT 124331-87-9DP, reaction product with bis(2-chloroethyl)amine 185537-34-2DP, reaction product with bis(2-chloroethyl)amine

(prepn. and cytotoxicity of bis(chloroethyl)amino-contg. polyphosphonate)

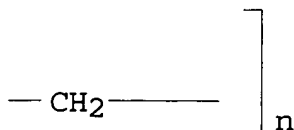
RN 124331-87-9 HCA

CN Poly(oxyphosphinylideneoxy-1,2-ethanediylloxy-1,2-ethanediylloxy-1,2-ethanediylloxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

PAGE 1-A



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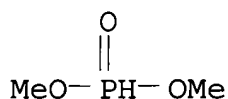
RN 185537-34-2 HCA

CN Phosphonic acid, dimethyl ester, polymer with 2,2'-[oxybis(2,1-ethanediylloxy)]bis[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 868-85-9

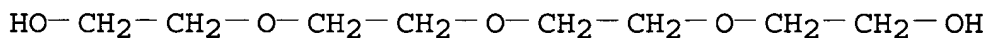
CMF C2 H7 O3 P



CM 2

CRN 112-60-7

CMF C8 H18 O5



CC 1-6 (Pharmacology)

Section cross-reference(s): 35, 37, 38, 63

IT **124331-87-9DP**, reaction product with bis(2-chloroethyl)
amine 185537-34-2DP, reaction product with
 bis(2-chloroethyl)**amine**
 (prepn. and cytotoxicity of bis(chloroethyl)**amino**
 -contg. polyphosphonate)

L95 ANSWER 7 OF 19 HCA COPYRIGHT 2006 ACS on STN

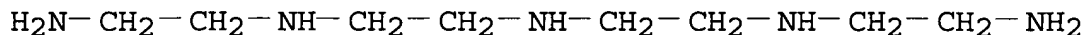
125:277797 Adsorption of Bi³⁺ ion with diphenyl phosphonate-formaldehyde resin having tetraethylenepentamine. Mori, Hidehiko; Sekiguti, Masaki; Ochiai, Masanori; Watanabe, Makoto; Fujimura, Yoshikazu (Dep. of Industrial Chemistry, Chubu Univ., Kasugai, 487, Japan). Nippon Kagaku Kaishi (10), 917-919 (Japanese) **1996**. CODEN: NKAKB8. ISSN: 0369-4577. Publisher: Nippon Kagakkai.

AB Titled resin showed good adsorption ability for Bi³⁺ ion in hydrochloric acid soln., about 1.6 mmol per g resin based on a dry wt. Bi³⁺ ion was adsorbed as anionic chloro complexes with the concn. > 0.1 mol dm⁻³, and the adsorption equil. was attained within 5 min. Bi³⁺ chloro complex loaded on the resin could be readily eluted with 1.4 mol dm⁻³ nitric acid soln.

IT **112-57-2D**, Tetraethylenepentamine, reaction products with Di-Ph phosphonate-formaldehyde copolymer **68183-19-7D**, Diphenyl phosphonate-formaldehyde copolymer, reaction products with tetraethylenepentamine
 (adsorption of Bi³⁺ ion by di-Ph phosphonate-formaldehyde resin with tetraethylenepentamine)

RN 112-57-2 HCA

CN 1,2-Ethanediamine, N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]- (9CI) (CA INDEX NAME)



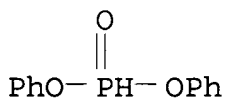
RN 68183-19-7 HCA

CN Phosphonic acid, diphenyl ester, polymer with formaldehyde (9CI)
(CA INDEX NAME)

CM 1

CRN 4712-55-4

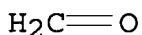
CMF C12 H11 O3 P



CM 2

CRN 50-00-0

CMF C H2 O



CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37

IT **112-57-2D**, Tetraethylenepentamine, reaction products with Di-Ph phosphonate-formaldehyde copolymer **68183-19-7D**, Diphenyl phosphonate-formaldehyde copolymer, reaction products with tetraethylenepentamine
(adsorption of Bi³⁺ ion by di-Ph phosphonate-formaldehyde resin with tetraethylenepentamine)

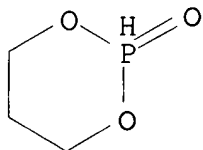
L95 ANSWER 8 OF 19 HCA COPYRIGHT 2006 ACS on STN

123:144517 Amino acids coupled to poly(alkylene phosphates). Penczek, Stanislaw; Kaluzynski, Krzysztof; Baran, Jolanta (Cent. Mol. Macromol. Studies, Pol. Acad. Sci., Lodz, 90-363, Pol.). Macromol. 1992, Invited Lect. IUPAC Int. Symp. Macromol., 34th, Meeting Date 1992, 231-40. Editor(s): Kahovec, Jaroslav. VSP: Utrecht, Neth. (English) **1993**. CODEN: 60KGAA.

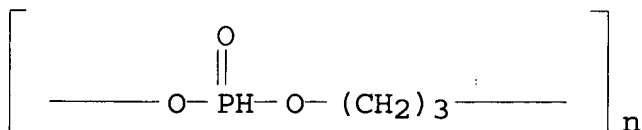
AB Methods are described of coupling amino acids or their esters to poly(alkylene phosphates). When, e.g. N,O-bis(trimethylsilyl)glycine is used, its reaction with poly(alkylene

chlorophosphate) gives, after removing of the silyl blocking groups, poly(alkylene phosphates) with glycines attached to the phosphorus atoms via their nitrogens. The P-NH bonds hydrolyze in acid and close to neutral conditions faster than ester bonds. The rate consts. of hydrolysis depend on the pH of the medium and are $7.40 \cdot 10^{-8} \text{ s}^{-1}$ and $2.40 \cdot 10^{-8} \text{ s}^{-1}$ (pH 8.5-9.0) for the repeating unit amide and ester groups, resp. in poly(trimethylene phosphate) coupled to glycine. Poly(alkylene phosphates) are water-sol. nontoxic polymers considered as the drug carriers.

IT **59199-62-1D**, chlorinated, reaction products with
amino acid esters or dipeptides
 (prepn. and hydrolysis kinetics of **amino** acids coupled
 to poly(alkylene phosphates))
 RN 59199-62-1 HCA
 CN 1,3,2-Dioxaphosphorinane, 2-oxide, homopolymer (9CI) (CA INDEX
 NAME)
 CM 1
 CRN 16352-21-9
 CMF C3 H7 O3 P



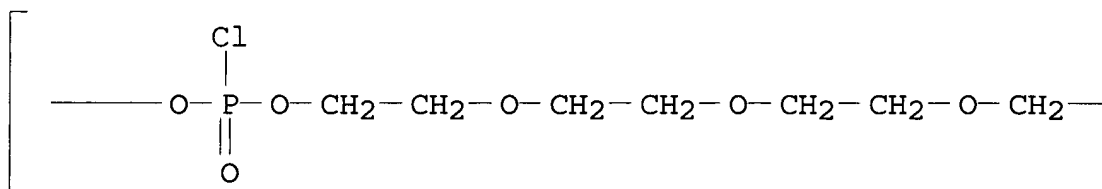
IT **59199-86-9DP**, chlorinated, reaction products with
amino acid esters or dipeptides
 (prepn. and hydrolysis kinetics of **amino** acids coupled
 to poly(alkylene phosphates))
 RN 59199-86-9 HCA
 CN Poly(oxyphosphinyldieneoxy-1,3-propanediyl) (9CI) (CA INDEX NAME)



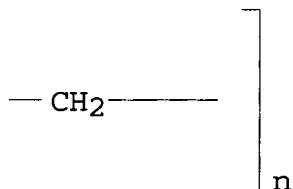
IT **159735-46-3DP**, reaction products with **amino** acid
 esters
 (prepn. and hydrolysis kinetics of **amino** acids coupled
 to poly(alkylene phosphates))
 RN 159735-46-3 HCA
 CN Poly[oxy(chlorophosphinyldiene)oxy-1,2-ethanediyl]oxy-1,2-

ethanediylloxy-1,2-ethanediylloxy-1,2-ethanediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

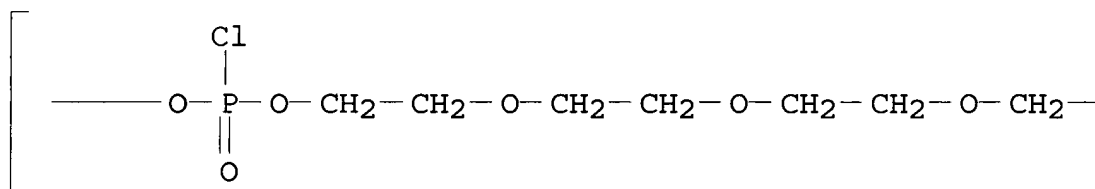


- CC 34-2 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 22, 63
- IT **59199-62-1D**, chlorinated, reaction products with
amino acid esters or dipeptides
(prepn. and hydrolysis kinetics of **amino** acids coupled
to poly(alkylene phosphates))
- IT **59199-86-9DP**, chlorinated, reaction products with
amino acid esters or dipeptides
(prepn. and hydrolysis kinetics of **amino** acids coupled
to poly(alkylene phosphates))
- IT 627-74-7DP, reaction products with chlorinated poly(propylene
phosphonate) 1738-68-7DP, reaction products with chlorinated
poly(propylene phosphonate) 3082-75-5DP, Alanine ethyl ester,
reaction products with chlorinated poly(propylene phosphonate)
6456-74-2DP, reaction products with chlorinated poly(propylene
phosphonate) 16367-69-4DP, reaction products with chlorinated
poly(propylene phosphonate) 17344-99-9DP, DL-Alanine ethyl ester,
reaction products with chlorinated poly(propylene phosphonate)
30959-96-7DP, D-Alanine ethyl ester, reaction products with
chlorinated poly(propylene phosphonate) **159735-46-3DP**,
reaction products with **amino** acid esters 166385-41-7DP,
desilylated sodium salts
(prepn. and hydrolysis kinetics of **amino** acids coupled
to poly(alkylene phosphates))

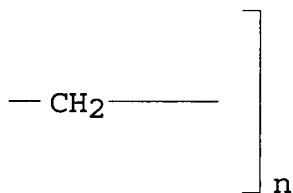
L95 ANSWER 9 OF 19 HCA COPYRIGHT 2006 ACS on STN

- 122:10922 Amino acids attached to poly(alkylene phosphate)s. 1.
 Synthesis. Kaluzynski, Krzysztof; Penczek, Stanislaw (Cent. Mol.
 Macromol. Studies, Acad. Sci., Lodz, 90-363, Pol.). Macromolecular
 Chemistry and Physics, 195(12), 3855-62 (English) 1994.
 CODEN: MCHPES. ISSN: 1022-1352. Publisher: Huethig & Wepf.
- AB Poly(alkylene phosphate)s with attached amino acids were synthesized
 by two methods for coupling of the amino acid moiety through P-NH
 bonds. Direct reaction of amino acid esters or of the
 N,O-bis(trimethylsilyl)-substituted amino acids with poly(alkylene
 chlorophosphate)s. The assumed microstructure of the resulting
 polymers was confirmed by anal. of the ¹H, ¹³C and ³¹P NMR spectra.
 Preliminary data on the hydrolytic stability of amino acids modified
 poly(alkylene phosphate)s are also given.
- IT 159735-46-3DP, reaction products with **amino** acid
 esters or dipeptides 159735-47-4DP, reaction products with
amino acid esters or dipeptides
 (prepn. and hydrolytic stability of degradable **amino**
 acid-coupled poly(alkylene phosphate)s)
- RN 159735-46-3 HCA
- CN Poly[oxy(chlorophosphinyldiene)oxy-1,2-ethanediyl] (9CI) (CA INDEX
 NAME)

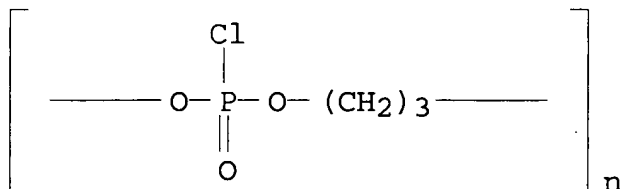
PAGE 1-A



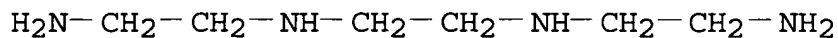
PAGE 1-B



- RN 159735-47-4 HCA
- CN Poly[oxy(chlorophosphinyldiene)oxy-1,3-propanediyl] (9CI) (CA INDEX
 NAME)



- CC 35-8 (Chemistry of Synthetic High Polymers)
- IT 459-73-4DP, Ethyl glycinate, reaction products with poly(trialkylene phosphate chloride)s 627-74-7DP, reaction products with poly(trialkylene phosphate chloride)s 1738-68-7P, Benzyl glycinate **159735-46-3DP**, reaction products with **amino acid esters or dipeptides 159735-47-4DP**, reaction products with **amino acid esters or dipeptides** (prepn. and hydrolytic stability of degradable **amino acid-coupled poly(alkylene phosphate)s**)
- L95 ANSWER 10 OF 19 HCA COPYRIGHT 2006 ACS on STN
- 118:42757 Rapid adsorption of gold(III) by phosphorus-containing chelate resins with polyamine. Mori, Hidehiko; Fujimura, Yoshikazu; Watanabe, Makoto; Sakurai, Makoto; Sinba, Hideharu (Coll. Eng., Chubu Univ., Kasugai, 487, Japan). Nippon Kagaku Kaishi (12), 1479-83 (Japanese) **1992**. CODEN: NKAKB8. ISSN: 0369-4577.
- AB The prepd. resins modified with triethylenetetramine, tetraethylenepentamine, and pentaethylenhexamine have the high adsorption capacity (2.3 mmol Au/g-resin). Gold(III) is readily adsorbed on the resins as anionic chloro-complexes from hydrochloric acid soln. Adsorption rate of gold(III) is high and the gold(III) was adsorbed effectively by passing gold(III) soln. (100 mg dm³) through the resin column at ion rate SV 600 h. The presence of 0.5 mol dm³ KH₂PO₄ at pH 4.2 or 0.2 mol dm³ HNO₃ and the five-times amt. of Cu(II), and Al(III) to gold(III) at pH 0.5 do not affect the adsorption efficiency of gold(III). The gold(III) loaded on a column can be eluted with 0.5 mol dm³ HCl-50 vol.% acetone aq. soln. The Au-loaded resin which was treated with NaBH₄ in ethanol can be utilized as a catalyst for hydrogenation of acetylene.
- IT **112-24-3D**, Triethylenetetramine, reaction product with di-Ph phosphonate-formaldehyde copolymer **112-57-2D**, Tetraethylenepentamine, reaction product with di-Ph phosphonate-formaldehyde copolymer **4067-16-7D**, Pentaethylenhexamine, reaction product with di-Ph phosphonate-formaldehyde copolymer **68183-19-7D**, Diphenyl phosphonate-formaldehyde copolymer, reaction products with **polyamines** (adsorption by, of gold)
- RN 112-24-3 HCA
- CN 1,2-Ethanediamine, N,N'-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)



RN 112-57-2 HCA

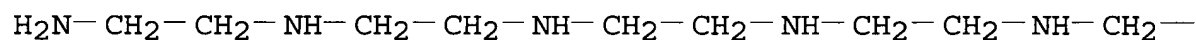
CN 1,2-Ethanediamine, N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]- (9CI) (CA INDEX NAME)



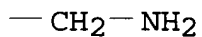
RN 4067-16-7 HCA

CN 3,6,9,12-Tetraazatetradecane-1,14-diamine (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



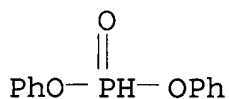
RN 68183-19-7 HCA

CN Phosphonic acid, diphenyl ester, polymer with formaldehyde (9CI)
(CA INDEX NAME)

CM 1

CRN 4712-55-4

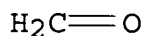
CMF C12 H11 O3 P



CM 2

CRN 50-00-0

CMF C H2 O



- CC 54-2 (Extractive Metallurgy)
Section cross-reference(s): 38, 45, 67
- IT **112-24-3D**, Triethylenetetramine, reaction product with di-Ph
phosphonate-formaldehyde copolymer **112-57-2D**,
Tetraethylenepentamine, reaction product with di-Ph
phosphonate-formaldehyde copolymer **4067-16-7D**,
Pentaethylenhexamine, reaction product with di-Ph
phosphonate-formaldehyde copolymer **68183-19-7D**, Diphenyl
phosphonate-formaldehyde copolymer, reaction products with
polyamines
(adsorption by, of gold)
- L95 ANSWER 11 OF 19 HCA COPYRIGHT 2006 ACS on STN
112:81400 Adsorption and separation of gold(III) and platinum(IV) by
phosphorus-containing chelate resin with tetraethylenepentamine
groups. Mori, Hidehiko; Shinba, Hideharu; Fujimura, Yoshikazu;
Takegami, Yoshinobu (Coll. Eng., Chubu Univ., Kasugai, 487, Japan).
Nippon Kagaku Kaishi (11), 1855-8 (Japanese) **1989**. CODEN:
NKAKB8. ISSN: 0369-4577.
- AB A chelate resin was prepd. by the reaction of a di-Ph
phosphonate-formaldehyde resin with tetraethylenepentamine for 4 h
at 100-140.degree.. The adsorption capacity of the chelating resin
of Au(III) and Pt(IV) was .apprx.2.3 mmol/g on a dry basis. The
rate of adsorption is high and the soln. passes effectively through
the resin column. The chelating resin showed good adsorption
ability for Au(III) and Pt(IV) at pH 1.6-6.0, and the selective
sepn. of Au(III) and Pt(IV) from other di- and tri-valent metal ions
is possible by HCl soln. The Pt(IV) and Au(III) ions loaded on a
column are sepd. from each other by consecutive elution with 1.0
mol/L NaOH then with 2.5% KCN soln. The recovery of Au(III) and
Pt(IV) from a large amt. of numerous metal ion samples, seawater,
and wastewater was carried out and the rate of preconcn. for both
ions was examd.
- IT **112-57-2D**, Tetraethylenepentamine, reaction product with
di-Ph phosphonate-formaldehyde copolymer **68183-19-7D**,
Diphenyl phosphonate-formaldehyde copolymer, reaction product with
tetraethylenepentamine
(extn. by, of gold and platinum)
- RN 112-57-2 HCA
- CN 1,2-Ethanediamine, N-(2-aminoethyl)-N'-[2-[(2-
aminoethyl)amino]ethyl]- (9CI) (CA INDEX NAME)



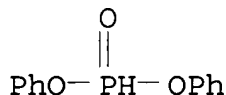
- RN 68183-19-7 HCA
- CN Phosphonic acid, diphenyl ester, polymer with formaldehyde (9CI)

(CA INDEX NAME)

CM 1

CRN 4712-55-4

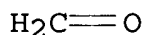
CMF C12 H11 O3 P



CM 2

CRN 50-00-0

CMF C H2 O



CC 54-2 (Extractive Metallurgy)

IT 112-57-2D, Tetraethylenepentamine, reaction product with di-Ph phosphonate-formaldehyde copolymer 68183-19-7D, Diphenyl phosphonate-formaldehyde copolymer, reaction product with tetraethylenepentamine (extn. by, of gold and platinum)

L95 ANSWER 12 OF 19 HCA COPYRIGHT 2006 ACS on STN

109:231681 Preparation of a phosphorus-containing chelating resin and its selectivity for ionic adsorption. Mori, Hidehiko; Fujimura, Yoshikazu; Takegami, Yoshinobu; Ohashi, Tsugiya (Coll. Eng., Chubu Univ., Kasugai, 487, Japan). Nippon Kagaku Kaishi (9), 1633-5 (Japanese) 1988. CODEN: NKA KB8. ISSN: 0369-4577.

AB A chelating resin was prepd. by the reaction of di-Ph phosphonate-CH₂O resin with triethylenetetramine for 4 h at .apprx.100.degree.. The adsorption capacity of the resin for divalent metal ions was 1.8 Cu²⁺ mmol/g-R (dry resin) and for trivalent metal ions 0.80 Cr³⁺ mmol/g-R. Elution curves for Ca²⁺, Mg²⁺, Cu²⁺, Cd²⁺, Zn²⁺, Co²⁺, Ni²⁺ and Pb²⁺ were recorded by using 0.02 mol/L citric acid and 0.05 mol/L HCl. The sepn. of metal ions from each other and the recovery of Ca²⁺ and Mg²⁺ from large amts. of other divalent metal ions were facilitated. The resin also showed good adsorption of Cr(III) from buffer solns. of pH 5.0 .apprx. 7.0 and of Cr₂O₇²⁻ from buffer solns. of pH 2.0 .apprx. 7.0.

IT 112-24-3DP, Triethylenetetramine, reaction products with diphenylphosphonate-formaldehyde copolymer 68183-19-7DP, Diphenylphosphonate-formaldehyde copolymer, reaction products with

triethylenetetramine

(prepn. and adsorption of metals by)

RN 112-24-3 HCA

CN 1,2-Ethanediamine, N,N'-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)



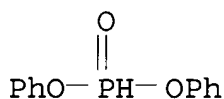
RN 68183-19-7 HCA

CN Phosphonic acid, diphenyl ester, polymer with formaldehyde (9CI)
(CA INDEX NAME)

CM 1

CRN 4712-55-4

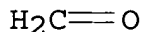
CMF C12 H11 O3 P



CM 2

CRN 50-00-0

CMF C H2 O



CC 35-8 (Chemistry of Synthetic High Polymers)

IT 112-24-3DP, Triethylenetetramine, reaction products with
diphenylphosphonate-formaldehyde copolymer 68183-19-7DP,
Diphenylphosphonate-formaldehyde copolymer, reaction products with
triethylenetetramine
(prepn. and adsorption of metals by)

L95 ANSWER 13 OF 19 HCA COPYRIGHT 2006 ACS on STN

107:116051 Synthesis of poly(alkylene phosphate)s with N-containing
bases in the side chains. II. 9-N-oxoethyleneadenine on the
poly(trimethylene phosphate) chain. Lapienis, Grzegorz; Penczek,
Stanislaw; Aleksyuk, G. P.; Kropachev, V. A. (Cent. Mol. Macromol.
Stud., Pol. Acad. Sci., Lodz, 90-362, Pol.). Journal of Polymer
Science, Part A: Polymer Chemistry, 25(7), 1729-36 (English)
1987. CODEN: JPACEC. ISSN: 0887-624X.

AB Poly(2-hydro-2-oxo-1,3,2-dioxaphosporinane) was quant. chlorinated,
and the resulting polymer was reacted with excess of imidazole to

give a highly reactive polyesteramide. The polyesteramide was treated with N-hydroxyethyladenine with blocked amino group to give polyphosphates with N-oxyethyleneadenine in the side chains. The final polymers (no.-av. mol. wt. > 104) as well as the intermediate products were characterized by H-, C-13, and P-31 NMR spectroscopy. According to the spectra and anal. data quant. conversion was achieved.

IT 59199-62-1DP, chlorinated, reaction products with imidazole and **dimethylaminomethylene**(hydroxyethyl)adenine or (hydroxyethyl)adenine 59199-86-9DP, chlorinated, reaction products with imidazole and **dimethylaminomethylene** (hydroxyethyl)adenine or (hydroxyethyl)adenine (prepn. and structure of)

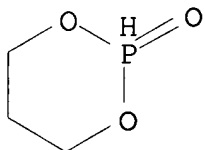
RN 59199-62-1 HCA

CN 1,3,2-Dioxaphosphorinane, 2-oxide, homopolymer (9CI) (CA INDEX NAME)

CM 1

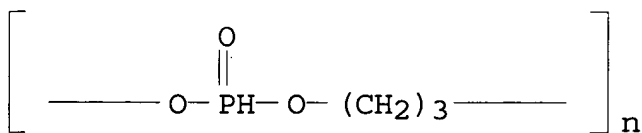
CRN 16352-21-9

CMF C3 H7 O3 P



RN 59199-86-9 HCA

CN Poly(oxyphosphinylideneoxy-1,3-propanediyl) (9CI) (CA INDEX NAME)



CC 35-7 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36

IT 707-99-3DP, reaction products with chlorinated poly(oxodioxaphosphorinane)-imidazole reaction products 707-99-3P 59199-62-1DP, chlorinated, reaction products with imidazole and **dimethylaminomethylene**(hydroxyethyl)adenine or (hydroxyethyl)adenine 59199-86-9DP, chlorinated, reaction products with imidazole and **dimethylaminomethylene** (hydroxyethyl)adenine or (hydroxyethyl)adenine 110213-40-6DP, reaction products with chlorinated poly(oxodioxaphosphorinane)-

imidazole reaction products
(prepn. and structure of)

L95 ANSWER 14 OF 19 HCA COPYRIGHT 2006 ACS on STN

97:128472 Studies on properties and reactivity of diphenyl phosphonate. XI. Preparation of a strongly basic anion exchanger based on diphenyl phosphonate-butyraldehyde resin. Mori, Hidehiko; Fujimura, Yoshikazu; Takegami, Yoshinobu (Dep. Ind. Chem., Chubu Inst. Technol., Kasugai, 487, Japan). Nippon Kagaku Kaishi (7), 1163-6 (Japanese) 1982. CODEN: NKAKB8. ISSN: 0369-4577.

AB A strongly basic anion exchange resin was prepd. by chloromethylation of an HCHO-crosslinked di-PH phosphonate-butyraldehyde resin, followed by amination of the ClCH₂ group. The ion exchange capacity of the dry resin was 1.05 mequiv/g and the time to reach equil. was 10-15 min. This resin showed selective adsorption for CrO₄²⁻, MoO₄²⁻, and WO₄²⁻ ions. These ions loaded on the resin were sepd. chromatog. from each other by sequential elution: Mo⁶⁺ was stripped by elution with a 1.6% NaCl soln. of pH 7.2, then Cr⁶⁺ with a 1.6% NaCl soln. of pH 7.8 and W⁶⁺ with 1.6% NaCl-0.1 mol/L NaOH, resp. The recoveries of CrO₄²⁻, MoO₄²⁻ and WO₄²⁻ ions at 103 mg/L each in mixed solns. of citric acid, sulfate, I⁻, and Cl⁻ at 103 ppm were 100, 97, and 99%, resp.

IT 83105-25-3D, chloromethylated, **aminated**
(anion exchanger, for sepn. of molybdate and tungstate and chromate)

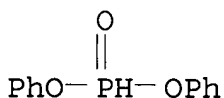
RN 83105-25-3 HCA

CN Phosphonic acid, diphenyl ester, polymer with butanal and formaldehyde (9CI) (CA INDEX NAME)

CM 1

CRN 4712-55-4

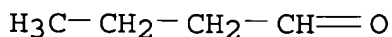
CMF C12 H11 O3 P



CM 2

CRN 123-72-8

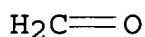
CMF C4 H8 O



CM 3

CRN 50-00-0

CMF C H2 O



CC 37-3 (Plastics Manufacture and Processing)

IT **83105-25-3D**, chloromethylated, **aminated**
(anion exchanger, for sepn. of molybdate and tungstate and chromate)

L95 ANSWER 15 OF 19 HCA COPYRIGHT 2006 ACS on STN

95:116597 Studies on property and reactivity of diphenyl phosphonate. IX. Preparation of anion exchanger based on phosphorus-containing resin and its selective adsorption for anions. Mori, Hidehiko; Fujimura, Yoshikazu; Takegami, Yoshinobu (Dep. Ind. Chem., Chubu Inst. Technol., Kasugai, 487, Japan). Nippon Kagaku Kaishi (8), 1279-82 (Japanese) **1981**. CODEN: NKAKB8. ISSN: 0369-4577.

AB The weakly basic anion exchange resin was prep'd. by the chloromethylation of di-Ph phosphonate-formaldehyde condensation resin, followed by amination of the chloromethyl group. The ion exchange capacity of the dry resin was 0.50-1.35 mequiv/g, depending on the conditions of the amination. The optimum pH range for ion exchange was 2.0-6.0 and the time to reach an equil. state was 10-15 min. This resin showed selective adsorption for CrO₄²⁻, MoO₄²⁻ and WO₄²⁻ ions. Cr⁴⁺, Mo⁴⁺, and W⁴⁺ adsorbed on the resin could be completely eluted with 0.5 M NaOH soln. Using an acid soln. as an eluent, only Mo⁴⁺ could be stripped with 0.3 wt.% H₂O₂-1.5 M H₂SO₄ soln. The sepn. of Cr⁴⁺ and Mo⁴⁺ and the recovery of Cr⁴⁺ from the dil. soln. (10-3 ppm) were also investigated.

IT **68183-19-7D**, chloromethylated, **aminated**
(anion exchangers, selective adsorption of)

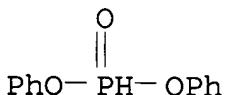
RN 68183-19-7 HCA

CN Phosphonic acid, diphenyl ester, polymer with formaldehyde (9CI)
(CA INDEX NAME)

CM 1

CRN 4712-55-4

CMF C12 H11 O3 P



CM 2

CRN 50-00-0

CMF C H2 O

 $\text{H}_2\text{C}=\text{O}$

CC 37-3 (Plastics Fabrication and Uses)

IT **68183-19-7D**, chloromethylated, **aminated**
(anion exchangers, selective adsorption of)

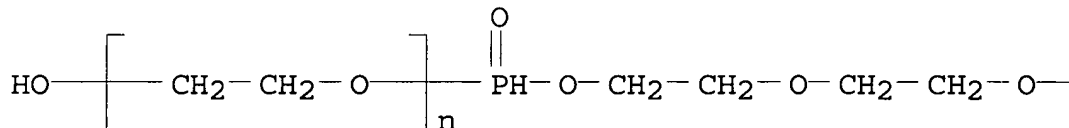
L95 ANSWER 16 OF 19 HCA COPYRIGHT 2006 ACS on STN

92:42899 Composition for cellular polyurethane. Sharafanov, V. T.;
Vinogradova, L. G.; Barynin, V. A.; Kaver, A. I.; Smyslov, V. I.;
Zubareva, L. S. (USSR). U.S.S.R. SU 696032 **19791105**
From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1979,
(41), 100. (Russian). CODEN: URXXAF. APPLICATION: SU 1977-2522820
19770822.AB Cellular polyurethanes with improved mech. strength and heat
resistance were prep'd. from a compn. consisting of 6.5-21.0 wt.%
oxyethylated diphosphonate of diethylene glycol in addn. to
polyisocyanate 49-62, oxypropylated ethylenediamine 19-29,
surfactant 0.6-0.8, and blowing agent 1.8-11.3 wt.%.IT **72441-53-3D**, polymer with oxypropylated
ethylenediamine and polyisocyanate
(cellular, heat-resistant)

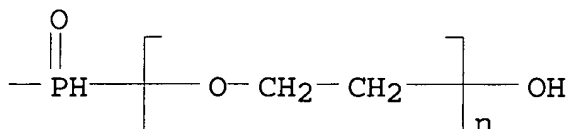
RN 72441-53-3 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.,.alpha.'-(1,9-dioxido-2,5,8-trioxa-
1,9-diphosphanonane-1,9-diyl)bis[.omega.-hydroxy- (9CI) (CA INDEX
NAME)

PAGE 1-A

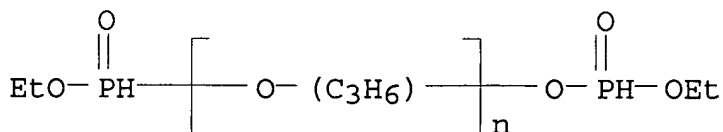


PAGE 1-B



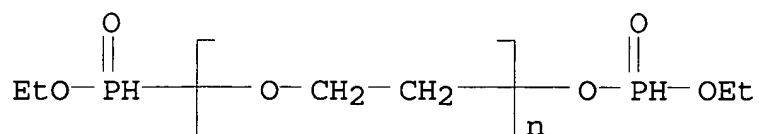
IC C08G018-14; C08L075-08
 CC 36-6 (Plastics Manufacture and Processing)
 IT 51178-86-0D, polymer with oxyethylated diethylene glycol diphosphonate and polyisocyanate **72441-53-3D**, polymer with oxypropylated **ethylenediamine** and polyisocyanate (cellular, heat-resistant)

L95 ANSWER 17 OF 19 HCA COPYRIGHT 2006 ACS on STN
 78:30806 Organic phosphonate hardeners for epoxy resins. Oakes, Vincent; Hutton, Ronald Eric; Cross, David F. W. (Interstab Ltd.). Ger. Offen. DE 2212390 **19720921**, 22 pp. (German). CODEN: GWXXBX. PRIORITY: GB 1971-7170 19710318.
 AB The title hardeners, prepd. by condensation of polyamines with aldehydes and ketones, and then with di-O-substituted phosphite, give resins with lower flammability, better light stability, and better metal-resin adhesion. Thus an equimolar amt. of diethylenetriamine is added portionwise at 30-40.deg. with stirring to paraformaldehyde, followed by an equimolar amt. of HOP(OMe)₂. Heating to 80.deg./5 mm gives dimethyl diethylenetriaminomethanephosphate (I) H₂NCH₂CH₂NHCH₂CH₂NHCH₂P(O)(OMe)₂ [37114-84-4]. Bisphenol A diglycidyl ether (epoxy value 0.53/100 g resin) (100 g) mixed with 51 g I hardened at room temp., and then at 50.deg. for 48 hr to give a solid resin which is self-extinguishing in 6 sec. Other examples (47) are given, including hardeners prepd. from acetone, PhCHO, tetraethylenepentamine, diphenyl phosphite, ethylenediamine, p-phenylenediamine, and 4,4'-diaminodiphenylmethane.
 IT **39297-31-9 40623-48-1**
 (reaction with acetone and triethylenetetramine)
 RN 39297-31-9 HCA
 CN Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(ethoxyphosphinyl)-.omega.-[(ethoxyphosphinyl)oxy] - (9CI) (CA INDEX NAME)

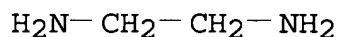


RN 40623-48-1 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(ethoxyphosphinyl)-.omega.-
[(ethoxyphosphinyl)oxy]- (9CI) (CA INDEX NAME)



IT 107-15-3, reactions
(with diethyl phosphite and paraformaldehyde)
RN 107-15-3 HCA
CN 1,2-Ethanediimine (9CI) (CA INDEX NAME)



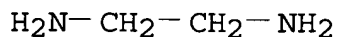
IC C07F; C08G
CC 36-6 (Plastics Manufacture and Processing)
IT 39297-31-9 40550-06-9 40550-07-0 40550-08-1
40623-48-1
(reaction with acetone and triethylenetetramine)
IT 107-15-3, reactions
(with diethyl phosphite and paraformaldehyde)

L95 ANSWER 18 OF 19 HCA COPYRIGHT 2006 ACS on STN

76:114359 Phosphorus-containing polymers. Santo, John E.; Vandegaer, Jan E. (Pennwalt Corp.). U.S. US 3624248 19711130, 4 pp.
Division of U.S. 3,492,380 (CA 72;79882g). (English). CODEN: USXXAM. APPLICATION: US 1970-403 19700106.

AB A P-contg. solid polymer which is sol. in alk. but not acid media is prepd. by interfacial polycondensation of p-(chlorocarbonyl)phenyl dichlorophosphate (I) [20070-01-3] and diamines or triamines and used to encapsulate liq., solid, or gas, e.g. insecticides. Thus, 3.1 g hexamethylenediamine in 200 ml water is agitated with a soln. of 5 g I in 5 ml benzene for a few min and the capsules are sepd. The p-(chlorocarbonyl)phenyl dichlorophosphate-hexamethylenediamine polymer [26680-16-0] encapsulates .sim.50 ml water. The polymer shells rupture in vacuum, are stable for >15 min at pH .leq.4 but burst in 2 min at pH 8.

IT 107-15-3, 1,2-Ethanediimine
(microcapsules from polymers contg., manuf. of, by interfacial polymn.)
RN 107-15-3 HCA
CN 1,2-Ethanediimine (9CI) (CA INDEX NAME)



IT 26680-16-0P 26680-17-1P

(microcapsules of, manuf. of, by interfacial polymn.)

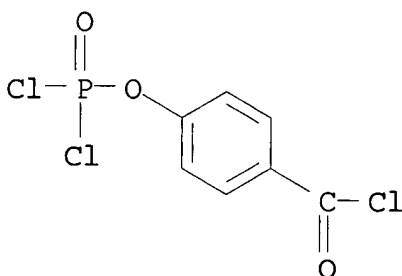
RN 26680-16-0 HCA

CN Phosphorodichloridic acid, 4-(chlorocarbonyl)phenyl ester, polymer with 1,6-hexanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 20070-01-3

CMF C7 H4 Cl3 O3 P



CM 2

CRN 124-09-4

CMF C6 H16 N2

H₂N-(CH₂)₆-NH₂

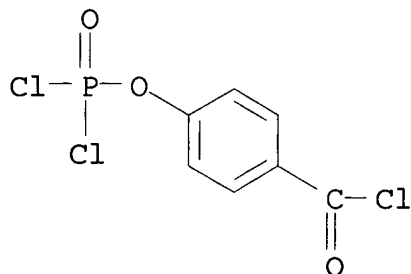
RN 26680-17-1 HCA

CN Phosphorodichloridic acid, 4-(chlorocarbonyl)phenyl ester, polymer with piperazine (9CI) (CA INDEX NAME)

CM 1

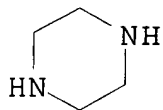
CRN 20070-01-3

CMF C7 H4 Cl3 O3 P



CM 2

CRN 110-85-0
CMF C4 H10 N2



IC C08G
INCL 260047000CZ
CC 37 (Plastics Fabrication and Uses)
Section cross-reference(s): 25
IT 107-15-3, 1,2-Ethanediamine 111-40-0 9016-87-9,
Isocyanic acid, polymethylenepolyphenylene ester 24802-03-7
(microcapsules from polymers contg., manuf. of, by interfacial
polymn.)
IT 26680-16-0P 26680-17-1P
(microcapsules of, manuf. of, by interfacial polymn.)

L95 ANSWER 19 OF 19 HCA COPYRIGHT 2006 ACS on STN
72:79882 Encapsulation with polymer material. Santo, John E.;
Vandegaer, Jan E. (Pennwalt Corp.). U.S. US 3492380
19700127, 3 pp. (English). CODEN: USXXAM. APPLICATION: US
1967-621135 19670307.
AB Solid or liq. particles are encapsulated by an interfacial
polycondensation reaction with a P-contg. polymer shell, which is
acid resistant, but dissolves in bases. Thus, 5 g
p-(chlorocarbonyl)phenyl reaction with a P-contg. polymer shell,
which is acid resistant, but dissolves in bases. Thus, 5 g
p-(chlorocarbonyl)phenyl dichlorophosphate (I) (prepd. by heating
p-hydroxybenzoic acid with PCl5) in 5 ml C6H6 was added to an
agitated soln. of 3.1 g hexamethylenediamine in 200 ml H2O to form
solid shells, which ruptured under vacuum and released .apprx.50ml

H₂O. The shells were stable for 15 min in aq. solns. of pH <7, burst after 12 min at pH 7, and burst after 2 min at pH >7. A mixt. of I, polymethylene poly(phenylisocyanate) (PAPI), sebacoyl chloride, poly(vinyl alc.) and Thimet was added to a soln. of ethylenediamine, diethylenetriamine, and Na₂CO₃ to form an encapsulated insecticide. 2,2-Bis(4-hydroxyphenyl)propane bis-(dichlorophosphate), prepd. by adding PCl₃ to a mixt. of bisphenol A and POCl₃, was similarly used to encapsulate Diazinon. The use of p-(chlorocarbonylmethylene)phenyl dichlorophosphate instead of I is claimed.

IT 26680-16-0 26680-17-1

(Diazinon encapsulation with)

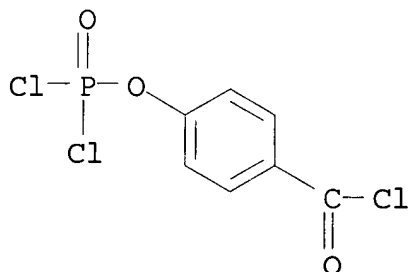
RN 26680-16-0 HCA

CN Phosphorodichloridic acid, 4-(chlorocarbonyl)phenyl ester, polymer with 1,6-hexanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 20070-01-3

CMF C7 H4 Cl3 O3 P



CM 2

CRN 124-09-4

CMF C6 H16 N2

H₂N-(CH₂)₆-NH₂

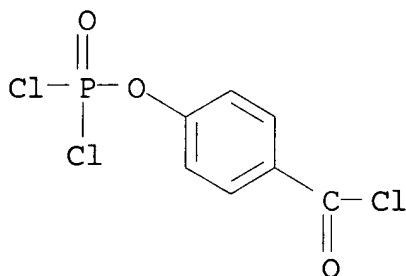
RN 26680-17-1 HCA

CN Phosphorodichloridic acid, 4-(chlorocarbonyl)phenyl ester, polymer with piperazine (9CI) (CA INDEX NAME)

CM 1

CRN 20070-01-3

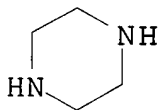
CMF C7 H4 Cl3 O3 P



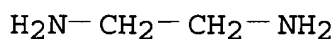
CM 2

CRN 110-85-0

CMF C4 H10 N2



IT **107-15-3**, Ethylenediamine
 (polymers with (chloroformyl)phenyl phosphorodichloridate and
 isocyanic acid esters, Thimet encapsulation with)
 RN 107-15-3 HCA
 CN 1,2-Ethanediamine (9CI) (CA INDEX NAME)



IC A61J; B29C
 INCL 264004000
 CC 36 (Plastics Manufacture and Processing)
 IT 111-19-3D, Sebacoyl chloride, polymers with diethylenetriamine and
 isocyanic acid esters **26680-16-0 26680-17-1**
 (Diazinon encapsulation with)
 IT **107-15-3**, Ethylenediamine 111-40-0
 (polymers with (chloroformyl)phenyl phosphorodichloridate and
 isocyanic acid esters, Thimet encapsulation with)

=> d 196 1-47 ti

L96 ANSWER 1 OF 47 HCA COPYRIGHT 2006 ACS on STN
 TI Poly(arylazophosphonate)s: new arylazophosphonate-containing
 monomers for synthesis of laser-structurable polymers

- L96 ANSWER 2 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Imide-amide rearrangement of cyclic phosphorimidates: a mechanistic study
- L96 ANSWER 3 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Synthesis of new phosphonic derivatives bearing fluorinated chains
- L96 ANSWER 4 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Arylazophosphonate containing polymers designed for XeCl excimer laser ablation
- L96 ANSWER 5 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Laser ablation of arylazo-containing polymers
- L96 ANSWER 6 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Preparation of oligo-amides and polyamide which contain the 4-dialkylamino-4'-(alkylsulfonyl)azobenzene chromophore
- L96 ANSWER 7 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Photochemical properties of poly(arylazophosphonates)
- L96 ANSWER 8 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Poly(arylazophosphonate)s: A New Polymer Class with Arylazophosphonate Units in the Main Chain
- L96 ANSWER 9 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Synthesis and MRI enhancement of iron(III) complexes with phosphate-EDTA-polyglycol terpolymer ligands
- L96 ANSWER 10 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Multilayer recording element suitable for production of flexographic printing plate by digital information transmission
- L96 ANSWER 11 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Manufacture of linear polyphosphazenes
- L96 ANSWER 12 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Polymers with arylazophosphonate units. Application for laser ablation
- L96 ANSWER 13 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Silver halide photographic material with storage stability
- L96 ANSWER 14 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Preparation of novel phosphoramidate and phosphorothioamidate oligomeric compounds

- L96 ANSWER 15 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Coating compositions containing phosphinylphosphoimides
- L96 ANSWER 16 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI The synthesis of phosphinylphosphorimidic hydroxyethyl acrylate and the electrical properties of its polymer produced by ultraviolet-irradiation-induced polymerization
- L96 ANSWER 17 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Preparation of phosphazene oligomers
- L96 ANSWER 18 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Wood-impregnating resin compositions with improved fire and weather resistance
- L96 ANSWER 19 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Synthesis and antitumor activity of polyphosphates containing both nitrogen mustard and lipophilic groups
- L96 ANSWER 20 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Phosphorus-containing thiuram disulfides as chain-transfer agents in the preparation of fire-resistant polymers
- L96 ANSWER 21 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Phosphorus functional telomers of vinyl polymers through functional thermal iniferter
- L96 ANSWER 22 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Thermal functional polymeric "iniferters" based on phosphorus-containing poly(thiuram disulfides); synthesis and characterization
- L96 ANSWER 23 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Syntheses of phosphorus based flame retardant polymers
- L96 ANSWER 24 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Styrene copolymers
- L96 ANSWER 25 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Biocide polymers. III. Synthesis of polyurethanes, polyureas, and their thioanalogs having phosphoric acid-phenyl ester diamide structural units
- L96 ANSWER 26 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Fire-resistant urethane-modified isocyanurate foams
- L96 ANSWER 27 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Crosslinked, carboxylic polymers suitable as thickeners

- L96 ANSWER 28 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Fire-resistant polyester fibers
- L96 ANSWER 29 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Heat resistant polymers of oxidized styrylphosphine
- L96 ANSWER 30 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Heat resistant polymers of oxidized styrylphosphine
- L96 ANSWER 31 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Heat resistant polymers of oxidized styrylphosphine
- L96 ANSWER 32 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Textiles fire-retardant treated with copolycondensed vinylphosphonates
- L96 ANSWER 33 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Aniline-based reaction product
- L96 ANSWER 34 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Flame-resistant polyamides
- L96 ANSWER 35 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI On polymerization of organofluorine cyclic amidophosphates
- L96 ANSWER 36 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Polyamides from fluoroalkyl dichlorophosphates
- L96 ANSWER 37 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Fire-resistant polyester fibers
- L96 ANSWER 38 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Phosphor-containing polysulfones
- L96 ANSWER 39 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Electric birefringence, conformation, and rigidity of the molecules of cellulose esters in solutions
- L96 ANSWER 40 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Pharmacologically active polymers. 7. Cyclophosphamide and steroid hormone containing polymers as potential anticancer compounds
- L96 ANSWER 41 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Copolycondensed vinyl phosphonates as fire retardants
- L96 ANSWER 42 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Bis(azidophosphoranes)

- L96 ANSWER 43 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Polymers containing boron, oxygen and phosphorus
- L96 ANSWER 44 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Polymers prepared from cyclic phosphite esters and p-benzoquinones
- L96 ANSWER 45 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Poly(tripropylene glycol phosphoramidates), useful as flameproofing agents
- L96 ANSWER 46 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI High-molecular-weight crosslinked polyurethane resins
- L96 ANSWER 47 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Adducts of polyalkene wax and alkyl phosphite

=> d 196 9,18,25,39,40 cbib abs hitstr hitind

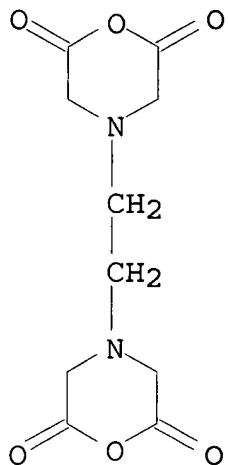
- L96 ANSWER 9 OF 47 HCA COPYRIGHT 2006 ACS on STN
129:54667 Synthesis and MRI enhancement of iron(III) complexes with phosphate-EDTA-polyglycol terpolymer ligands. Yu, Kaichao; Feng, Jiwen; Hu, Hongbing; Lu, Guang; Zhuo, Renxi; Li, Liyun; Ye, Chaohui (Wuhan Inst. Physics Mathematics, Chinese Acad. Scis., Wuhan, 430071, Peop. Rep. China). Bopuxue Zazhi, 15(2), 123-129 (Chinese) 1998. CODEN: BOZAE2. ISSN: 1000-4556. Publisher: Zhongguo Kexueyuan Wuhan Wuli Yanjiuso.
- AB A new series of terpolymer ligands were synthesized by the copolymn. of ethylene diamine tetraacetic dianhydride (EDTAA), Et phosphodichloridate (or Me phosphodichloridate, Bu phosphodichloridate) with diethylene glycol or triethylene glycol, and their Fe(III) complexes were prepd. The structures of these new ligands and Fe(III) complexes were confirmed by ¹H NMR, IR and elemental anal. The longitudinal relaxation measurements on these macromol. complexes indicated that most of them have higher relativity as compared to Fe(III)-EDTA. The acute toxicity test using one of these Fe(III) complexes was performed and no obvious toxicity was obsd. T1-weighted contrast imaging of rat liver showed clear MRI enhancement after injection the new complex.
- IT **208517-82-2P**, Diethylene glycol-ethylenediamine tetraacetic dianhydride-methyl phosphodichloridate copolymer (synthesis, structure, magnetic relaxation, toxicity, and MRI enhancement of iron(III) complexes with phosphate-EDTA-polyglycol terpolymer ligands)
- RN 208517-82-2 HCA
- CN Phosphorodichloridic acid, methyl ester, polymer with 4,4'-(1,2-ethanediyl)bis[2,6-morpholinedione] and

2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 23911-25-3

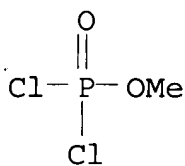
CMF C10 H12 N2 O6



CM 2

CRN 677-24-7

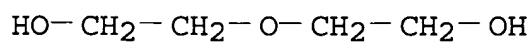
CMF C H3 Cl2 O2 P



CM 3

CRN 111-46-6

CMF C4 H10 O3



CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 63

IT 208517-82-2P, Diethylene glycol-ethylenediamine

tetraacetic dianhydride-methyl phosphodichloridate copolymer

208517-83-3P 208517-84-4P 208517-85-5P 208517-86-6P

208517-87-7P

(synthesis, structure, magnetic relaxation, toxicity, and MRI enhancement of iron(III) complexes with phosphate-EDTA-polyglycol terpolymer ligands)

L96 ANSWER 18 OF 47 HCA COPYRIGHT 2006 ACS on STN

115:184630 Wood-impregnating resin compositions with improved fire and weather resistance. Nakahara, Makoto; Yoshiga, Ikuo; Izumi, Masao (Sanken Kako Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 03097502 A2 19910423 Heisei, 3 pp. (Japanese). CODEN: JKXXAF.

APPLICATION: JP 1989-236094 19890912.

AB Title compns. comprise unsatd. polyesters obtained from halo- or P-contg. aliph. polyols and unsatd. dicarboxylic acids or their anhydrides, and optionally aliph. dicarboxylic acids, acrylic compds., P-contg. plasticizers, and curing catalysts. Thus, a white ash specimen impregnated with a mixt. of adipic acid-dibromoneopentyl glycol-maleic anhydride copolymer, tris(2,3-dibromopropyl) phosphate, Me methacrylate, and benzoyl peroxide and cured at 140.degree. showed good wood pattern, Barcol hardness (GYZJ 935) 70, O index .gtoreq.40, and good weather resistance.

IT 136654-26-7P

(prepn. of, contg. acrylate esters and phosphate plasticizers and curing catalysts, impregnants for wood, fire- and weather-resistant)

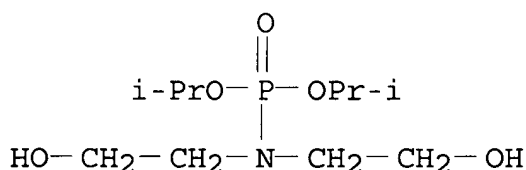
RN 136654-26-7 HCA

CN Hexanedioic acid, polymer with bis(1-methylethyl) bis(2-hydroxyethyl)phosphoramidate, (2E)-2-butenedioic acid and methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 54480-56-7

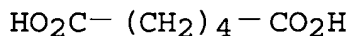
CMF C10 H24 N O5 P



CM 2

CRN 124-04-9

CMF C6 H10 O4

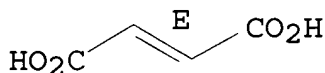


CM 3

CRN 110-17-8

CMF C4 H4 O4

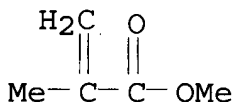
Double bond geometry as shown.



CM 4

CRN 80-62-6

CMF C5 H8 O2



IC ICM B27K003-50

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 35, 43

IT 136654-26-7P

(prepn. of, contg. acrylate esters and phosphate plasticizers and curing catalysts, impregnants for wood, fire- and weather-resistant)

L96 ANSWER 25 OF 47 HCA COPYRIGHT 2006 ACS on STN

94:157338 Biocide polymers. III. Synthesis of polyurethanes, polyureas, and their thioanalogs having phosphoric acid-phenyl ester diamide structural units. Hartmann, Manfred; Geschwend, G.; Klemm, D. (Sekt. Chem., Friedrich-Schiller-Univ. Jena, Jena, DDR-6900, Ger. Dem. Rep.). Acta Polymerica, 32(1), 24-6 (German) 1981. CODEN: ACPODY. ISSN: 0323-7648.

AB The soln. polymn. of PhOPO(NCS)2 [21049-95-6] (prepd. from PhOPCl2 [770-12-7] and NH4SCN in C6H6-MeCN) with glycols and with alkanediamines gave polythiourethanes and polythioureas, resp. The mol. wts. of the latter were distinctly higher. No transitions were shown by the polymers at .ltoreq.200.degree. in differential

scanning calorimetry. Similar polymns. of PhOPO(NCO)₂ [prepd. by condensing PhOPCl₂ with KOCN and oxidizing PhOP(NCO)₂ with SO₂Cl₂] gave polyurethanes and polyureas. The mol. wts. of the polyureas were comparable to those of the polythioureas.

IT 77223-94-0P 77223-95-1P 77223-96-2P
 77223-97-3P 77223-98-4P 77223-99-5P
 77224-00-1P 77224-01-2P 77224-02-3P
 77224-03-4P 77224-04-5P 77224-05-6P
 77224-06-7P

(prepn. of)

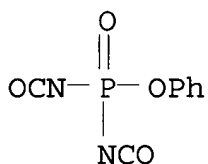
RN 77223-94-0 HCA

CN Phosphorodiisocyanatidic acid, phenyl ester, polymer with
 1,2-ethanediol (9CI) (CA INDEX NAME)

CM 1

CRN 1844-12-8

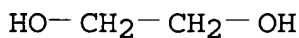
CMF C8 H5 N2 O4 P



CM 2

CRN 107-21-1

CMF C2 H6 O2



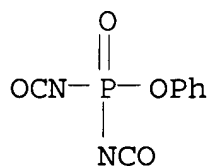
RN 77223-95-1 HCA

CN Phosphorodiisocyanatidic acid, phenyl ester, polymer with
 1,4-butanediol (9CI) (CA INDEX NAME)

CM 1

CRN 1844-12-8

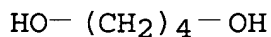
CMF C8 H5 N2 O4 P



CM 2

CRN 110-63-4

CMF C4 H10 O2



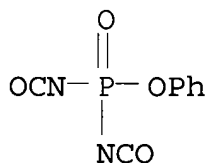
RN 77223-96-2 HCA

CN Phosphorodiisocyanatidic acid, phenyl ester, polymer with
2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 1844-12-8

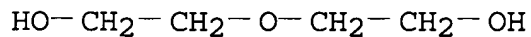
CMF C8 H5 N2 O4 P



CM 2

CRN 111-46-6

CMF C4 H10 O3

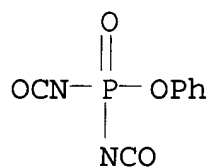


RN 77223-97-3 HCA

CN Phosphorodiisocyanatidic acid, phenyl ester, polymer with
2,2'-[1,2-ethanediylbis(oxy)]bis[ethanol] (9CI) (CA INDEX NAME)

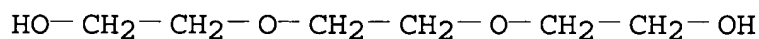
CM 1

CRN 1844-12-8
CMF C8 H5 N2 O4 P



CM 2

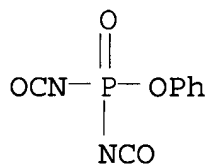
CRN 112-27-6
CMF C6 H14 O4



RN 77223-98-4 HCA
CN Phosphorodiisocyanatidic acid, phenyl ester, polymer with
1,2-ethanediamine (9CI) (CA INDEX NAME)

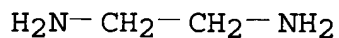
CM 1

CRN 1844-12-8
CMF C8 H5 N2 O4 P



CM 2

CRN 107-15-3
CMF C2 H8 N2

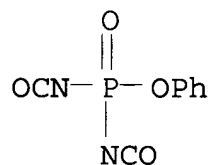


RN 77223-99-5 HCA
CN Phosphorodiisocyanatidic acid, phenyl ester, polymer with
1,6-hexanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 1844-12-8

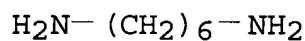
CMF C8 H5 N2 O4 P



CM 2

CRN 124-09-4

CMF C6 H16 N2



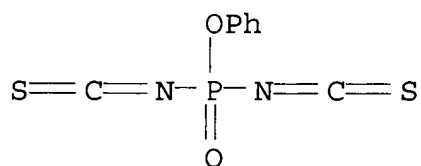
RN 77224-00-1 HCA

CN Phosphorodi(isothiocyanatidic) acid, phenyl ester, polymer with 1,2-ethanediol (9CI) (CA INDEX NAME)

CM 1

CRN 21049-95-6

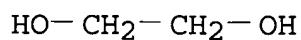
CMF C8 H5 N2 O2 P S2



CM 2

CRN 107-21-1

CMF C2 H6 O2



RN 77224-01-2 HCA

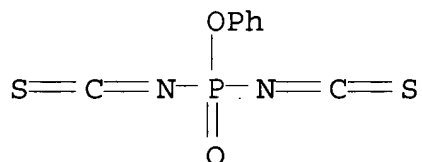
CN Phosphorodi(isothiocyanatidic) acid, phenyl ester, polymer with

1,4-butanediol (9CI) (CA INDEX NAME)

CM 1

CRN 21049-95-6

CMF C8 H5 N2 O2 P S2



CM 2

CRN 110-63-4

CMF C4 H10 O2

HO-(CH₂)₄-OH

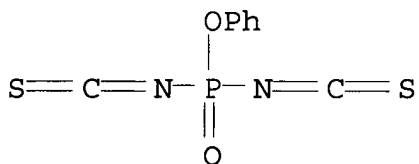
RN 77224-02-3 HCA

CN Phosphorodi(isothiocyanatidic) acid, phenyl ester, polymer with 2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 21049-95-6

CMF C8 H5 N2 O2 P S2



CM 2

CRN 111-46-6

CMF C4 H10 O3

HO-CH₂-CH₂-O-CH₂-CH₂-OH

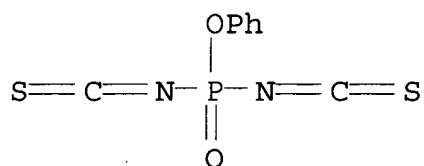
RN 77224-03-4 HCA

CN Phosphorodi(isothiocyanatidic) acid, phenyl ester, polymer with
2,2'-[1,2-ethanediylbis(oxy)]bis[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 21049-95-6

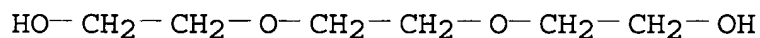
CMF C8 H5 N2 O2 P S2



CM 2

CRN 112-27-6

CMF C6 H14 O4



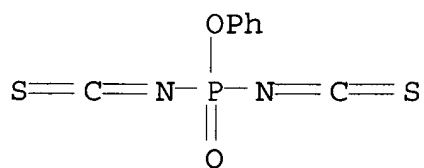
RN 77224-04-5 HCA

CN Phosphorodi(isothiocyanatidic) acid, phenyl ester, polymer with
1,2-ethanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 21049-95-6

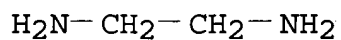
CMF C8 H5 N2 O2 P S2



CM 2

CRN 107-15-3

CMF C2 H8 N2



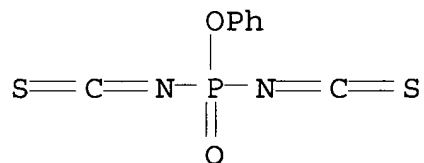
RN 77224-05-6 HCA

CN Phosphorodi(isothiocyanatidic) acid, phenyl ester, polymer with
1,4-butanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 21049-95-6

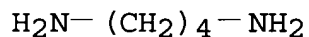
CMF C8 H5 N2 O2 P S2



CM 2

CRN 110-60-1

CMF C4 H12 N2



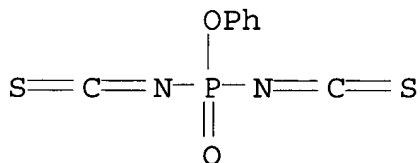
RN 77224-06-7 HCA

CN Phosphorodi(isothiocyanatidic) acid, phenyl ester, polymer with
1,6-hexanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 21049-95-6

CMF C8 H5 N2 O2 P S2



CM 2

CRN 124-09-4
CMF C6 H16 N2

H₂N—(CH₂)₆—NH₂

CC 35-3 (Synthetic High Polymers)

IT 21049-95-6P 77210-99-2P 77211-00-8P 77211-01-9P 77211-02-0P
77211-03-1P 77211-04-2P 77211-05-3P 77211-06-4P 77211-07-5P
77211-08-6P 77211-09-7P 77211-10-0P 77211-11-1P
77223-94-0P 77223-95-1P 77223-96-2P
77223-97-3P 77223-98-4P 77223-99-5P
77224-00-1P 77224-01-2P 77224-02-3P
77224-03-4P 77224-04-5P 77224-05-6P
77224-06-7P
(prepn. of)

L96 ANSWER 39 OF 47 HCA COPYRIGHT 2006 ACS on STN

82:86758 Electric birefringence, conformation, and rigidity of the molecules of cellulose esters in solutions. Lavrenko, P. N.; Ryumtsev, E. I.; Shtennikova, I. N.; Andreeva, L. N.; Pogodina, N. V.; Tsvetkov, V. N. (Inst. High Mol. Compounds, Leningrad, USSR). Journal of Polymer Science, Polymer Symposia, 44(Organ. Struct. Polym. Solutions Gels, Microsymp. Macromol., 12th, 1973), 217-35 (English) 1974. CODEN: JPYCAQ. ISSN: 0360-8905.

AB Solns. of several cellulose [9004-34-6] esters in dioxane showed high equil. and kinetic chain rigidity. The coincidence in signs of the Kerr and Maxwell effects in solns. of the samples indicated gen. relations shown by all rigid-chain polymers for which the longitudinal geometric axis of the mol. is also the symmetry axis of its polar and optical properties. For example, increasing the mol. wt. of cellulose carbanilate (I) [37251-21-1] in soln. changed the conformation of I mols. from a faintly-curved rod to a rigid Gaussian coil. In the Gaussian region (high mol. wt.) the Kerr effect depended on the longitudinal (with respect to the chain) component of the dipole moment formed by the C-O bonds forming a portion of the glucoside ring.

IT 54579-30-5

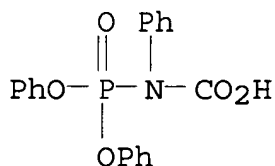
(elec. and flow birefringence of, in dioxane, detn. of)

RN 54579-30-5 HCA

CN Cellulose, (diphenoxyphosphinyl)phenylcarbamate (9CI) (CA INDEX NAME)

CM 1

CRN 168611-97-0
CMF C19 H16 N O5 P



CM 2

CRN 9004-34-6

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 35-5 (Synthetic High Polymers)

Section cross-reference(s): 69

IT 9004-34-6D, Cellulose, deriv., esters 9004-36-8 9004-57-3

9015-11-6 9032-47-7 9069-20-9 37251-21-1 **54579-30-5**

(elec. and flow birefringence of, in dioxane, detn. of)

L96 ANSWER 40 OF 47 HCA COPYRIGHT 2006 ACS on STN

82:43784 Pharmacologically active polymers. 7. Cyclophosphamide and steroid hormone containing polymers as potential anticancer compounds. Batz, Hans G.; Ringsdorf, Helmut; Ritter, Helmut (Inst. Org. Chem., Univ. Mainz, Mainz, Fed. Rep. Ger.). Makromolekulare Chemie, 175(8), 2229-39 (English) 1974. CODEN: MACEAK. ISSN: 0025-116X.

AB Several acrylic and methacrylic esters and N-vinyl monomers of cyclophosphamide and testosterone derivs. were prepd. and homopolymd. or copolymd. with hydrophilic monomers to give water-sol. polymers. For example, 2-[N-(2-chloroethyl)-N-(3-.beta.-chloroethyl-2-oxoperhydro-1,3,2.lambda.5-oxazaphosphorin-2-yl)amino]ethyl methacrylate-2-methacryloyloxyethyltrimethylammonium chloride polymer [53899-92-6] was prepd. and showed pharmacol. activity against Yoshida ascites sarcoma in mice (5 mg/kg body wt.).

IT 53899-92-6

(pharmacol. activity of)

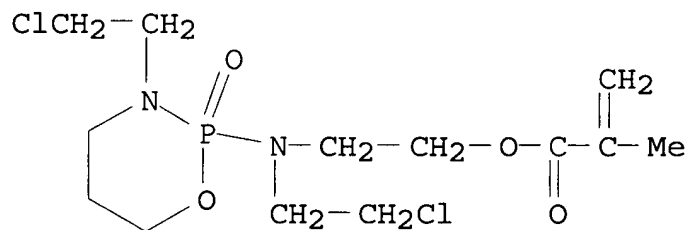
RN 53899-92-6 HCA

CN Ethanaminium, N,N,N-trimethyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-[(2-chloroethyl)[3-(2-chloroethyl)tetrahydro-2-oxido-2H-1,3,2-oxazaphosphorin-2-yl]amino]ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 53804-58-3

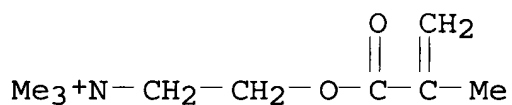
CMF C13 H23 C12 N2 O4 P



CM 2

CRN 5039-78-1

CMF C9 H18 N O2 . Cl

● Cl⁻

IT 53804-59-4P 53804-61-8P 53804-63-0P

53804-65-2P 53804-66-3P 53804-67-4P

53804-68-5P 53899-91-5P

(prepn. of)

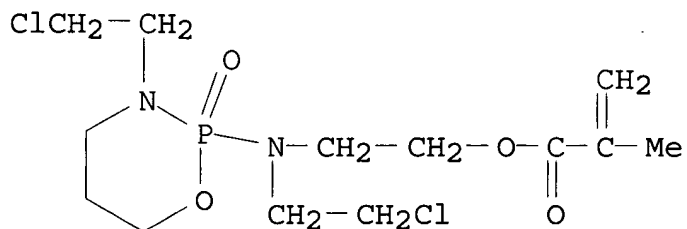
RN 53804-59-4 HCA

CN 2-Propenoic acid, 2-methyl-, 2-[(2-chloroethyl)[3-(2-chloroethyl)tetrahydro-2-oxido-2H-1,3,2-oxazaphosphorin-2-yl]amino]ethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 53804-58-3

CMF C13 H23 Cl2 N2 O4 P



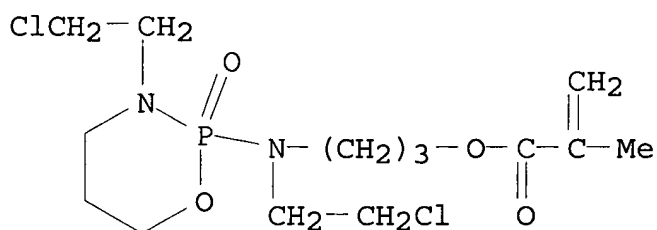
RN 53804-61-8 HCA

CN 2-Propenoic acid, 2-methyl-, 3-[(2-chloroethyl)[3-(2-chloroethyl)tetrahydro-2-oxido-2H-1,3,2-oxazaphosphorin-2-yl]amino]propyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 53804-60-7

CMF C14 H25 Cl2 N2 O4 P



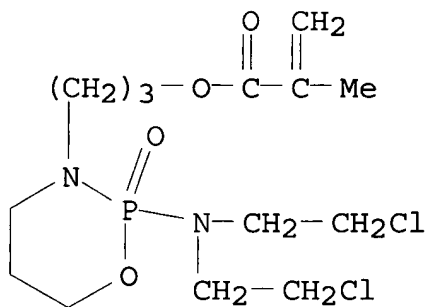
RN 53804-63-0 HCA

CN 2-Propenoic acid, 2-methyl-, 3-[2-[bis(2-chloroethyl)amino]dihydro-2-oxido-2H-1,3,2-oxazaphosphorin-3(4H)-yl]propyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 53804-62-9

CMF C14 H25 Cl2 N2 O4 P



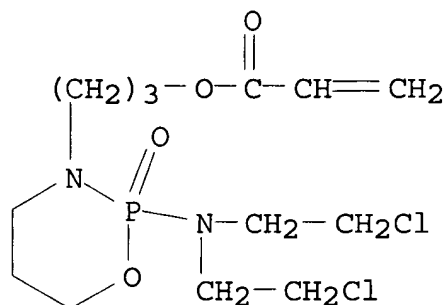
RN 53804-65-2 HCA

CN 2-Propenoic acid, 3-[2-[bis(2-chloroethyl)amino]dihydro-2-oxido-2H-1,3,2-oxazaphosphorin-3(4H)-yl]propyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 53804-64-1

CMF C13 H23 Cl2 N2 O4 P



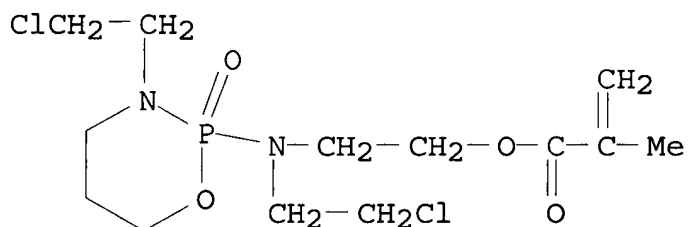
RN 53804-66-3 HCA

CN 2-Propenoic acid, 2-methyl-, 2-[(2-chloroethyl)[3-(2-chloroethyl)tetrahydro-2-oxido-2H-1,3,2-oxazaphosphorin-2-yl]amino]ethyl ester, polymer with 2-(methylsulfinyl)ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 53804-58-3

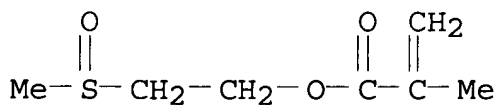
CMF C13 H23 Cl2 N2 O4 P



CM 2

CRN 14794-09-3

CMF C7 H12 O3 S



RN 53804-67-4 HCA

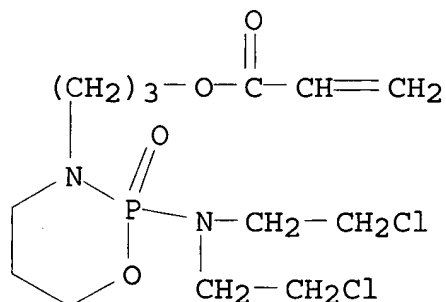
CN 2-Propenoic acid, 3-[2-[bis(2-chloroethyl)amino]dihydro-2-oxido-2H-1,3,2-oxazaphosphorin-3(4H)-yl]propyl ester, polymer with

2-(methylsulfinyl)ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 53804-64-1

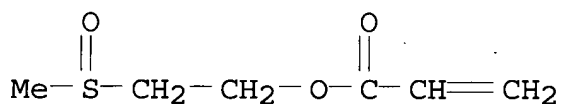
CMF C13 H23 Cl2 N2 O4 P



CM 2

CRN 42356-51-4

CMF C6 H10 O3 S



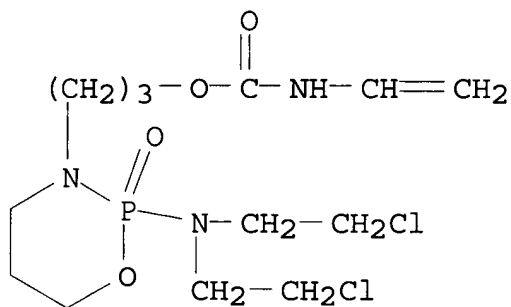
RN 53804-68-5 HCA

CN Carbamic acid, ethenyl-, 3-[2-[bis(2-chloroethyl)amino]dihydro-2-oxido-2H-1,3,2-oxazaphosphorin-3(4H)-yl]propyl ester, polymer with 1-ethenyl-2-pyrrolidinone (9CI) (CA INDEX NAME)

CM 1

CRN 53803-76-2

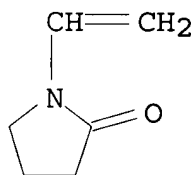
CMF C13 H24 Cl2 N3 O4 P



CM 2

CRN 88-12-0

CMF C6 H9 N O



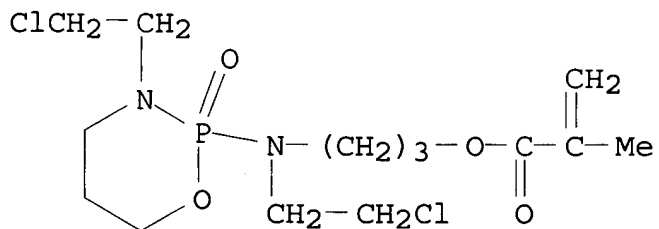
RN 53899-91-5 HCA

CN Ethanaminium, N,N,N-trimethyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]-, chloride, polymer with 3-[(2-chloroethyl)[3-(2-chloroethyl)tetrahydro-2-oxido-2H-1,3,2-oxazaphosphorin-2-yl]amino]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

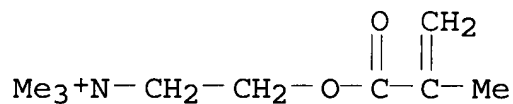
CRN 53804-60-7

CMF C14 H25 Cl2 N2 O4 P



CM 2

CRN 5039-78-1
 CMF C9 H18 N O2 . Cl



● Cl⁻

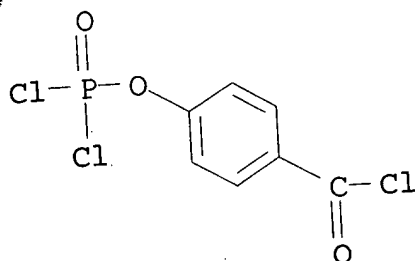
CC 35-3 (Synthetic High Polymers)
 Section cross-reference(s): 1, 28, 32

IT **53899-92-6**

(pharmacol. activity of)

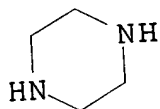
IT 53803-65-9P 53803-72-8P 53803-73-9P 53803-74-0P 53803-75-1P
 53803-76-2P **53804-59-4P 53804-61-8P**
53804-63-0P 53804-65-2P 53804-66-3P
53804-67-4P 53804-68-5P 53829-65-5P
53899-91-5P 54427-62-2P 54427-63-3P 54427-64-4P
 54427-65-5P 54427-66-6P 54427-67-7P 54427-68-8P 54427-69-9P
 (prepn. of)

ACQUAH 10/500,565



CM 2

CRN 110-85-0
CMF C4 H10 N2



IC C08G

INCL 260047000CZ

CC 37 (Plastics Fabrication and Uses)

IT 107-15-3, 1,2-Ethanediamine 111-40-0 9016-87-9,

Isocyanic acid, polymethylenepolyphenylene ester 24802-03-7
(microcapsules from polymers contg., manuf. of, by interfacial polymn.)

IT 26680-16-0P 26680-17-1P
(microcapsules of, manuf. of, by interfacial polymn.)

L95 ANSWER 19 OF 19 HCA COPYRIGHT 2006 ACS on STN
72:79882 Encapsulation with polymer material. Santo, John E.;
Vandegaer, Jan E. (Pennwalt Corp.). U.S. US 3492380
19700127, 3 pp. (English). CODEN: USXXAM. APPLICATION: US
1967-621135 19670307.

AB Solid or liq. particles are encapsulated by an interfacial polycondensation reaction with a P-contg. polymer shell, which is acid resistant, but dissolves in bases. Thus, 5 g p-(chlorocarbonyl)phenyl reaction with a P-contg. polymer shell, which is acid resistant, but dissolves in bases. Thus, 5 g p-(chlorocarbonyl)phenyl dichlorophosphate (I) (prepd. by heating p-hydroxybenzoic acid with PCl5) in 5 ml C6H6 was added to an agitated soln. of 3.1 g hexamethylenediamine in 200 ml H2O to form solid shells, which ruptured under vacuum and released .apprx.50ml

H₂O. The shells were stable for 15 min in aq. solns. of pH <7, burst after 12 min at pH 7, and burst after 2 min at pH >7. A mixt. of I, polymethylene poly(phenylisocyanate) (PAPI), sebacoyl chloride, poly(vinyl alc.) and Thimet was added to a soln. of ethylenediamine, diethylenetriamine, and Na₂CO₃ to form an encapsulated insecticide. 2,2-Bis(4-hydroxyphenyl)propane bis-(dichlorophosphate), prepd. by adding PCl₃ to a mixt. of bisphenol A and POCl₃, was similarly used to encapsulate Diazinon. The use of p-(chlorocarbonylmethylene)phenyl dichlorophosphate instead of I is claimed.

IT 26680-16-0 26680-17-1

(Diazinon encapsulation with)

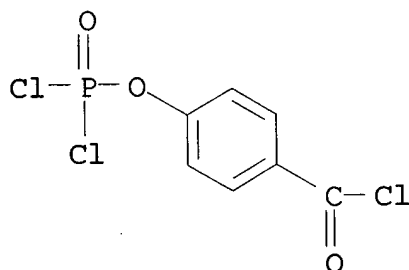
RN 26680-16-0 HCA

CN Phosphorodichloridic acid, 4-(chlorocarbonyl)phenyl ester, polymer with 1,6-hexanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 20070-01-3

CMF C7 H4 Cl3 O3 P



CM 2

CRN 124-09-4

CMF C6 H16 N2

H₂N-(CH₂)₆-NH₂

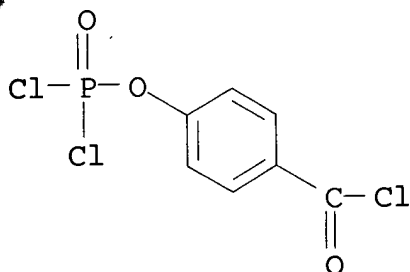
RN 26680-17-1 HCA

CN Phosphorodichloridic acid, 4-(chlorocarbonyl)phenyl ester, polymer with piperazine (9CI) (CA INDEX NAME)

CM 1

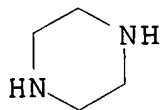
CRN 20070-01-3

CMF C7 H4 Cl3 O3 P

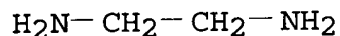


CM 2

CRN 110-85-0
CMF C4 H10 N2



IT 107-15-3, Ethylenediamine
(polymers with (chloroformyl)phenyl phosphorodichloridate and
isocyanic acid esters, Thimet encapsulation with)
RN 107-15-3 HCA
CN 1,2-Ethanediamine (9CI) (CA INDEX NAME)



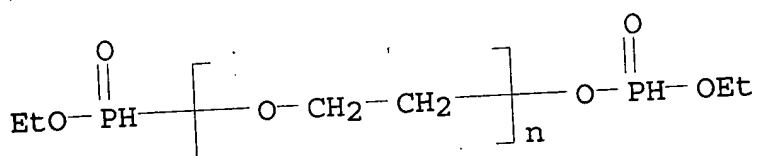
IC A61J; B29C
INCL 264004000
CC 36 (Plastics Manufacture and Processing)
IT 111-19-3D, Sebacoyl chloride, polymers with diethylenetriamine and
isocyanic acid esters 26680-16-0 26680-17-1
(Diazinon encapsulation with)
IT 107-15-3, Ethylenediamine 111-40-0
(polymers with (chloroformyl)phenyl phosphorodichloridate and
isocyanic acid esters, Thimet encapsulation with)

=> d 196 1-47 ti

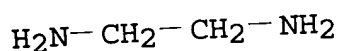
L96 ANSWER 1 OF 47 HCA COPYRIGHT 2006 ACS on STN
TI Poly(arylazophosphonate)s: new arylazophosphonate-containing
monomers for synthesis of laser-structurable polymers

ACQUAH 10/500,565

Poly(oxy-1,2-ethanediyl), .alpha.-(ethoxyphosphinyl)-.omega.-
[(ethoxyphosphinyl)oxy]- (9CI) (CA INDEX NAME)



IT 107-15-3, reactions
(with diethyl phosphite and paraformaldehyde)
RN 107-15-3 HCA
CN 1,2-Ethanediamine (9CI) (CA INDEX NAME)

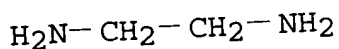


IC C07F; C08G
CC 36-6 (Plastics Manufacture and Processing)
IT 39297-31-9 40550-06-9 40550-07-0 40550-08-1
40623-48-1
(reaction with acetone and triethylenetetramine)
IT 107-15-3, reactions
(with diethyl phosphite and paraformaldehyde)

L95 ANSWER 18 OF 19 HCA COPYRIGHT 2006 ACS on STN
76:114359 Phosphorus-containing polymers. Santo, John E.; Vandegaer,
Jan E. (Pennwalt Corp.). U.S. US 3624248 19711130, 4 pp.
Division of U.S. 3,492,380 (CA 72;79882g). (English). CODEN:
USXXAM. APPLICATION: US 1970-403 19700106.

AB A P-contg. solid polymer which is sol. in alk. but not acid media is
prepd. by interfacial polycondensation of p-(chlorocarbonyl)phenyl
dichlorophosphate (I) [20070-01-3] and diamines or triamines and
used to encapsulate liq., solid, or gas, e.g. insecticides. Thus,
3.1 g hexamethylenediamine in 200 ml water is agitated with a soln.
of 5 g I in 5 ml benzene for a few min and the capsules are sepd.
The p-(chlorocarbonyl)phenyl dichlorophosphate-hexamethylenediamine
polymer [26680-16-0] encapsulates .sim.50 ml water. The
polymer shells rupture in vacuum, are stable for >15 min at pH
.leg.4 but burst in 2 min at pH 8.

IT 107-15-3, 1,2-Ethanediamine
(microcapsules from polymers contg., manuf. of, by interfacial
polymn.)
RN 107-15-3 HCA
CN 1,2-Ethanediamine (9CI) (CA INDEX NAME)

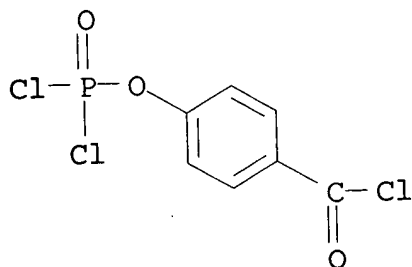


IT 26680-16-0P 26680-17-1P
(microcapsules of, manuf. of, by interfacial polymn.)
RN 26680-16-0 HCA
CN Phosphorodichloridic acid, 4-(chlorocarbonyl)phenyl ester, polymer
with 1,6-hexanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 20070-01-3

CMF C7 H4 Cl3 O3 P



CM 2

CRN 124-09-4

CMF C6 H16 N2

H₂N-(CH₂)₆-NH₂

RN 26680-17-1 HCA
CN Phosphorodichloridic acid, 4-(chlorocarbonyl)phenyl ester, polymer
with piperazine (9CI) (CA INDEX NAME)

CM 1

CRN 20070-01-3

CMF C7 H4 Cl3 O3 P